

### RAM METAL INDUSTRIES, L.L.C.

DUBAI INDUSTRIAL CITY DUBAI, U.A.E.

T: +971 4 451 8884 F: +971 4 454 7073

www.rammetal.com

contactus@rammetal.com

RAM
ARCHITECTURAL METAL

# MAKING THE WORLD'S SPACES EXTRAORDINARY



Our vision is to advance the design and technology of architectural solutions for our clients and the world. We aim to stay at the leading edge of our industry by introducing sustainable solutions that bring light and beauty to the spaces we create.

# 1967 Company founded by Factory expansion Factory branch opens Samir Rayes in Kuwait in Beirut in Kuwait First production of metal High quality ceilings and ceilings partition solutions added

# **OUR STORY**

In 1957, Samir Rayes founded a ceiling manufacturing company in Kuwait based on exceptional quality and morally ethical business practices. His vision and dream expanded to Beirut in 1967, adding to their portfolio the production of metal ceilings. Samir broadened the work of the facility in Kuwait to include industrial extrusion in 1977, manufacturing high-quality ceiling and partition solutions while maintaining a commitment to quality and integrity.

After graduating from George Washington University in Washington, D.C., in 1989, Samir's son Ghaith El Rayes continued his father's legacy by establishing RAM in Dubai, expanding the company from linear profiles into custom solutions to provide a superior experience that elevates light and beauty.

As the market demand for custom ceiling solutions grew, Ghaith ventured into yet a larger manufacturing facility in the Dubai Industrial City in 2010, establishing RAM as the largest ceiling manufacturing company in the Middle East and one of the leading ceiling companies worldwide. To ensure RAM maintain the highest international standards of quality while serving megaprojects, a logistics facility was inaugurated in 2017.

Today, RAM is based in Dubai and is a global leader in design and manufacturing, harnessing our natural resources to create exceptional architectural solutions. As a family business, we value relationships and honesty, working as full partners with our clients to bring their vision to life.



1989

Ghaith El Rayes joins the company

Dubai branch established Custom ceiling solutions added 2009

**Expansion to larger** manufacturing facility in Dubai

manufacturer in the Middle East

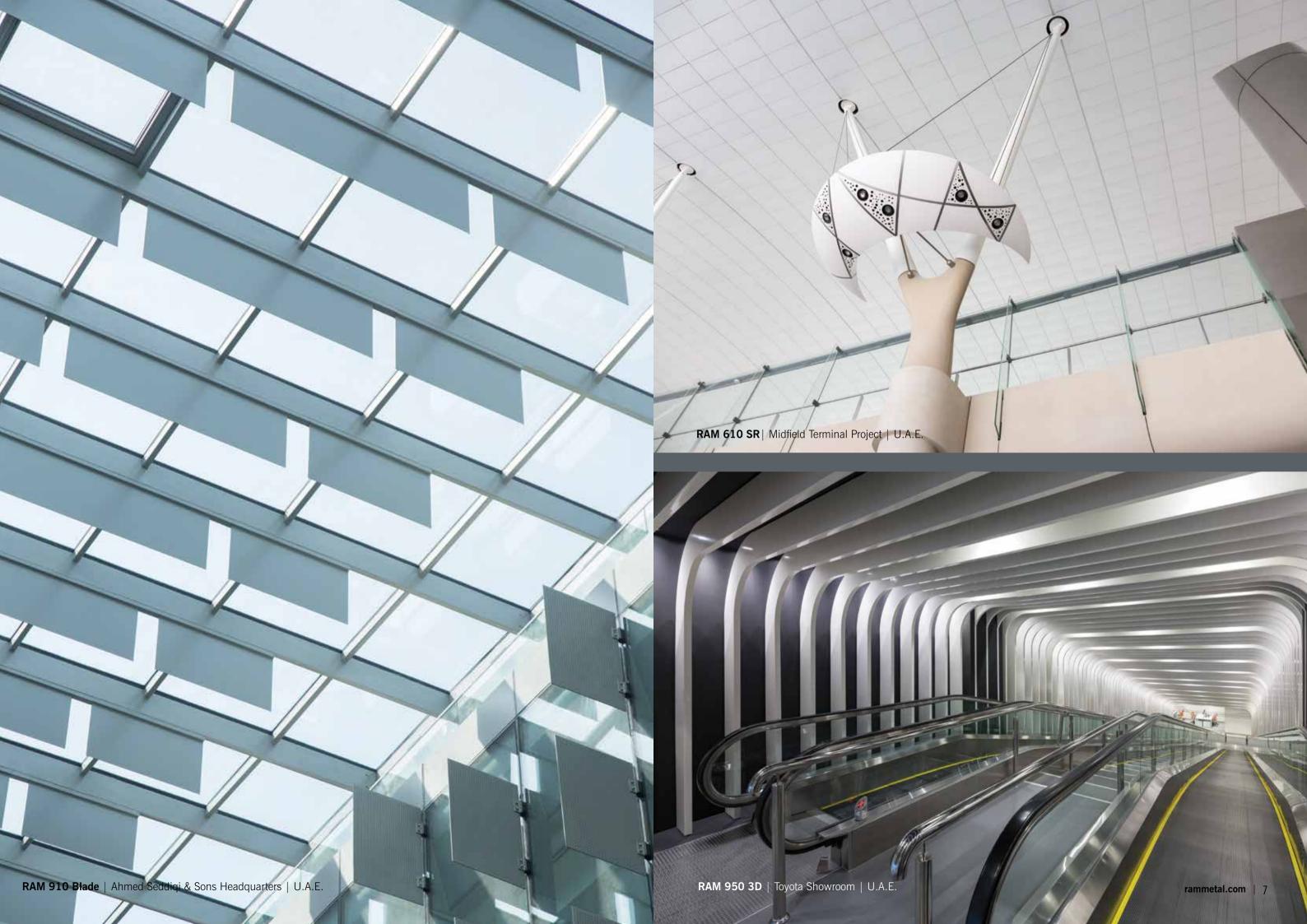
2017+

Logistics facility inaugurated in Dubai

RAM established as largest ceiling

RAM a global leader in the manufacture of architectural metal solutions









# **OUR PROCESS**

We deliver high-quality products for our clients, working with architects to create solutions that are environmentally sound, architecturally innovative, and inspirational.

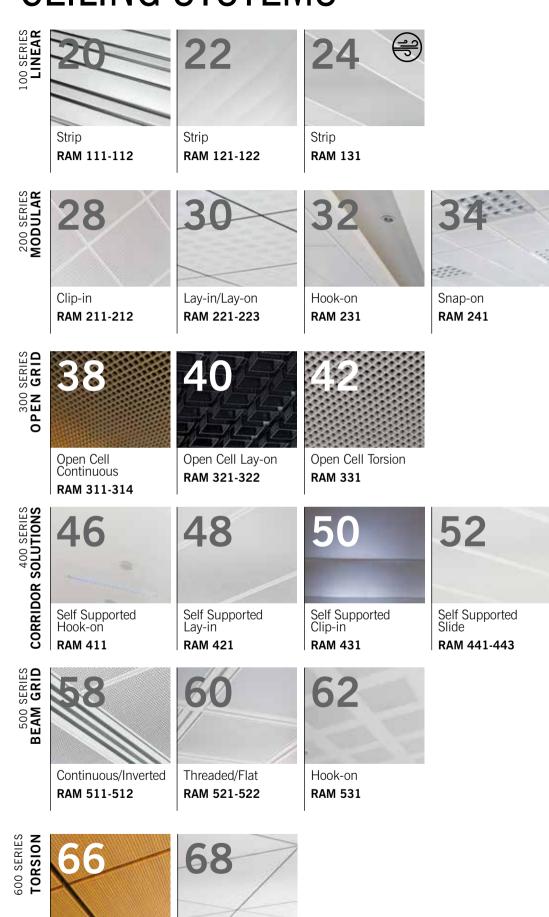
# GUIDED BY INTEGRITY, DRIVEN BY INNOVATION

# OUR FUTURE

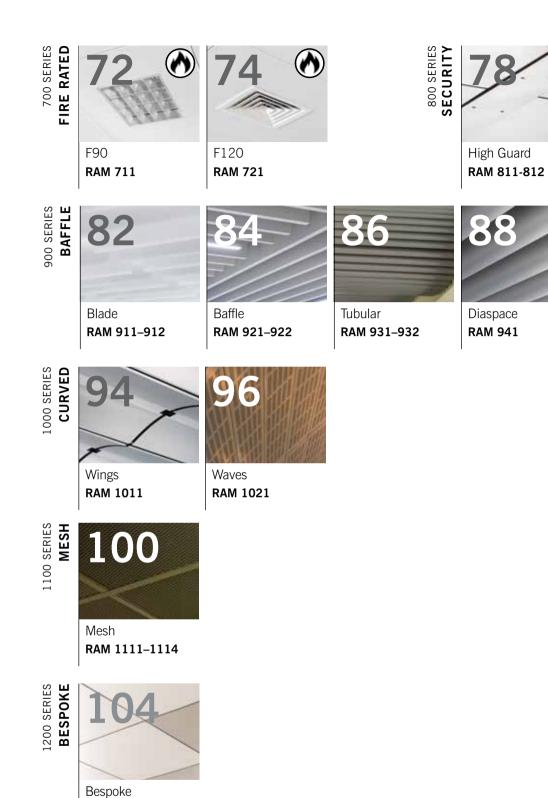
We value the act of reinvention and innovation, striving to create and improve sustainable solutions that meet the highest industry standards while advancing the technology to bring superior products to life.

# **CEILING SYSTEMS**

SR **RAM 611** 



RAM 621-622



3D

**RAM 951** 

14 15

**RAM 1211** 

# WALL SYSTEMS



Internal Wall Covering

RAM 2011-2014



External Wall Covering

RAM 2111-2114

External Column Covering RAM 2121-2124

Internal Column

RAM 2021-2024

Covering

2200 SERIES

BESPOKE
WALL CLADDING

Bespoke Wall Cladding

**RAM 2211** 

# SHADE CONTROL





**RAM 3011** 

# **ARCHITECTURAL ELEMENTS**





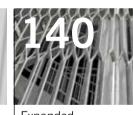


# SURFACE DESIGN **PATTERNS**





6010



Expanded Metal Mesh Patterns

# TECHNICAL INFO

144 COLORS/FINISHES

150 DATA/PERFORMANCE







A strip ceiling system designed for internal and external application, with recessed filler (square edge) & flush filler (rounded edge). Acoustics performance for internal system. Easy accessibility to ceiling void with access key tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 2.00mm.

Galvanized Steel: 0.45mm to 1.00mm

+ Custom thickness are available upon request

#### SURFACE FINISH

RAM 112: Rounded

Plain Perforated

#### **SIZES**

MODULE WIDTHS (mm): 100/150/200 **STRIP WIDTHS** (mm): 85/135/185 FILLER STRIP HEIGHT: 15mm PANEL DEPTH: 15mm EDGE DETAIL: RAM 111: Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating:  $(5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

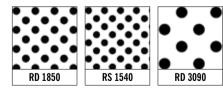


#### **SPECIAL FINISHES**



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



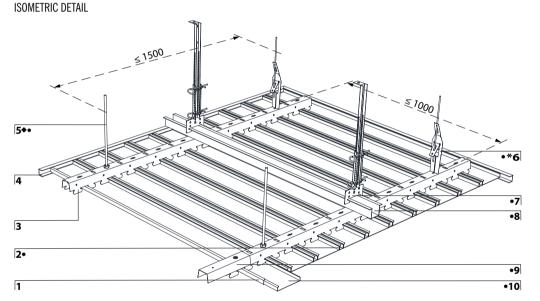
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### **RAM 111** STRIP WITH RECESSED FILLER **RAM 112 STRIP WITH FLUSH FILLER**

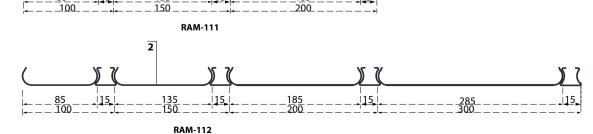


## COMPONENTS

- 1 Strip
- 2 Filler Strip 3 Main Carrier
- 4 Wall Trim
- **5** Threaded Rod ◆●
- 6 Adjustment Clip \*●
- **7** Rigid Hanging System ●
- 8 Stabilizer ●
- **9** C Splice •
- **10** S Splice ●
- 11 Wedge ●
- ◆ For external application
- \* For internal application Optional
- Custom sizes can be offered

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# PANEL FILLER STRIP CONFIGURATION PERIMETER OPTIONS RAM-111 RAM-112 PANEL STRIP MODULE



**CEILING SYSTEMS** LINEAR 120 series **STRIP** 

A strip ceiling system designed for internal and external application, with closed groove & butt joint. Acoustics performance for internal system. Easy accessibility by sliding the strip out of the carrier. Progressive access to ceiling void. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.45mm to 0.8mm.

Galvanized Steel: 0.45mm to 0.7mm

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### SIZES

STRIP WIDTHS (mm): RAM 121: 100/150/200/300

RAM 122: 200/300

PANEL DEPTH: 15mm

EDGE DETAIL:

RAM 121: Closed Groove (20mm) RAM 122: Square Butt Joint

- + Custom sizes are available upon request
- + See page 145 for all standard sizes

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

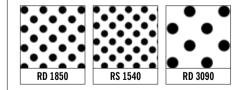


#### **SPECIAL FINISHES**



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



WIND RESISTANCE Tested as per ASTM E330-02.



#### FIRE PERFORMANCE

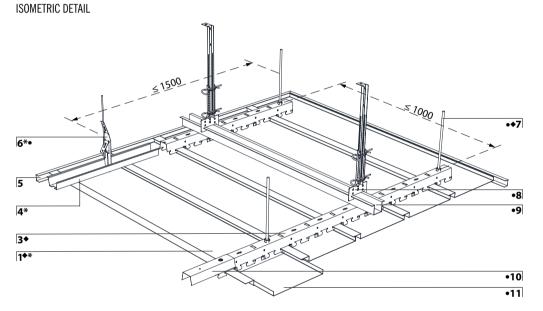
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### **RAM 121** STRIP WITH CLOSED GROOVE RAM 122 STRIP WITH BUTT JOINT

PANEL STRIP MODULES



#### COMPONENTS

- **1** Strip **◆\***
- 2 RAM-122 Main Carrier ◆ 3 RAM-121 Main Carrier ◆
- 4 RAM-121 Main Carrier \*
- 5 Wall Trim
- 6 Adjustment Clip \*●
- 7 Threaded Rod ◆● 8 Rigid Hanging System
- 9 Stabilizer ●
- **10** S Splice ●
- 11 C Splice ●
- **12** Wedge ●
- ◆ For external application
- \* For internal application
- Optional

Custom sizes can be offered

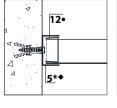
# RAM-121

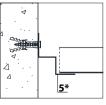
RAM-122

JOINT DETAIL



#### PERIMETER OPTIONS







A strip ceiling system for internal and external application, with V Joint. Acoustics performance for internal system. Accessibility to ceiling void with access key tool for internal application and progressive access for external application. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIALS**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

0.7mm to 0.8mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### **SIZES**

**STRIP WIDTH (**mm): 200/300/400 PANEL DEPTH: 33mm EDGE DETAIL: Closed V

+ Custom sizes are available upon request

#### HIGH WIND RESISTANCE

Up to 215km/hr

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

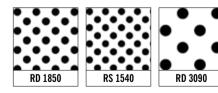


#### **SPECIAL FINISHES**



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

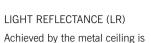
Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



LR- 0.85-0.96 tested as per ASTM E 1477.



WIND RESISTANCE Tested as per ASTM E330-02.



#### FIRE PERFORMANCE

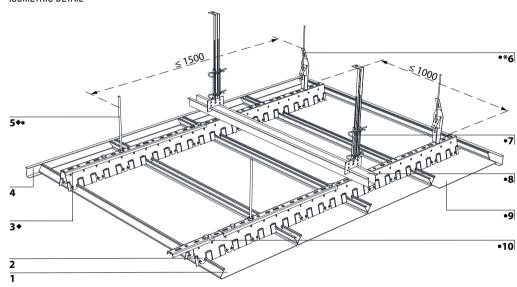
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### **RAM 131 STRIP WITH V JOINT**

#### ISOMETRIC DETAIL



### COMPONENTS

- 1 Strip
- 2 Main Carrier
- 3 Reinforcement Angle ◆ 4 Wall Trim
- 5 Threaded Rod ◆●
- 6 Adjustment Clip \*● 7 Rigid Hanging System •
- 8 Stabilizer ●
- **9** S Splice ●
- **10** C Splice 11 Bolt & Nut ◆
- **12** Wedge ●
- ◆ For external application \* For internal application
- Optional
- Custom sizes can be offered

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PANEL STRIP MODULE



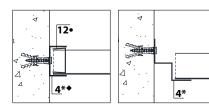
#### JOINT DETAIL



#### REINFORCEMENT DETAIL



#### PERIMETER OPTIONS







Clip in type ceiling designed for internal application. Clipped in to a concealed suspension system. Fully demountable with downward accessibility / hinge down accessibility using panel removal access key tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 0.8mm.

Galvanized Steel: 0.45mm to 0.7mm

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### COATING

Polyester Coating:  $(5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### SIZES (mm)

	Panel Joint Details		RAM 211	RAM 212	
	Square	5 mm Beveled	3mm Beveled		
300 X 300	•	•		•	
300 X 600	•	•		•	
300 X 1200	•	•		•	
600 X 600	•	•	•	•	•
600 X 1200	•	•		•	•
600 X 1800	•			•	•
1200 X 1200	•			•	•

\*RAM 211 -With tool key access

\*RAM 212 -With hinge down access

+ Custom Sizes available upon request

#### COLORS

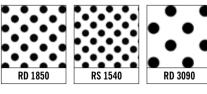
RAL 9003	RAL 9010	RAL 9016	RAL 9006

#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

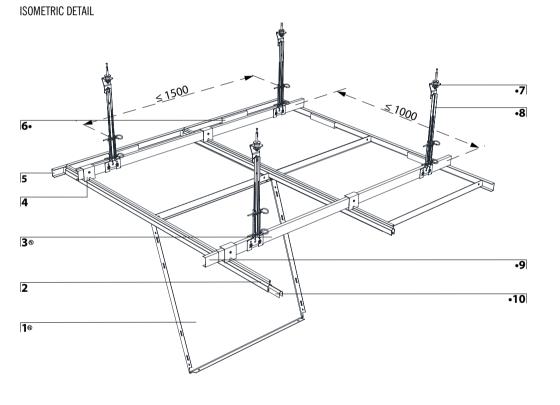
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

# RAM 211 CLIP-IN

# RAM 212 CLIP-IN/HINGEDOWN



#### COMPONENTS 1 Panel ®®

- 2 Narrow Carrier
- **3** Stabilizer
- 4 NC Bracket®
- 5 Wall Trim 6 Wedge ●
- **7** Anti-Vibration Clip (RH) ●
- 8 Rigid Hanging System •
- 9 ST Splice ●
- **10** C Splice •
- **11** Spring Tee Carrier
- 12 SC Bracket®
- 13 Wire Clip®
- **14** U Bracket ●
- **15** Threaded Rod ●
- **16** Anti-Vibration Clip (TR) ●
- 17 Adjustment Clip ●
- **18** Coupling Clip ●
- **19** Security Wire ●®

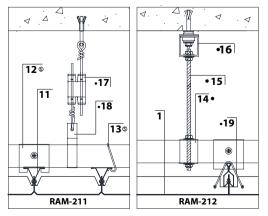


Optional

n For Narrow Carrier © For Spring Tee Carrier

Custom sizes can be offered

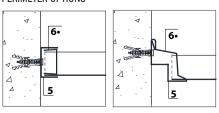
#### OPTIONAL HANGING SOLUTIONS



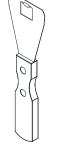
#### JOINT DETAIL



#### PERIMETER OPTIONS



#### ACCESS TOOL •





Lay-In type T-Grid ceiling designed for internal application. Modular ceiling laid-in/on to a T-Grid (15mm/24mm) with exposed suspension system & revealed / non revealed / flush panel edges. Lift upwards out from grid to gain ceiling void access. Offered in a wide range of sizes, colors & finishes.

### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 1.0mm Galvanized Steel: 0.5mm to 0.8mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated **Decorative Patterns** 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### SIZES (mm)

RAM 221	RAM 222	RAM 223	
•		•	
•		•	
•	•	•	
•		•	
•		•	
•		•	
	RAM 221  • • • • • • • •	RAM 221 RAM 222	RAM 221 RAM 222 RAM 223

+ Custom Sizes available upon request

#### COLORS

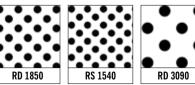


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to - 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

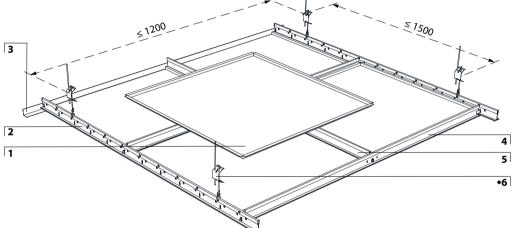
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

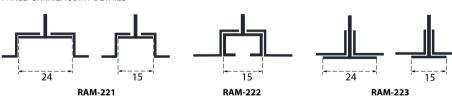
Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

RAM 221 LAY-IN **RAM 222** GT15 RAM 223 LAY-ON

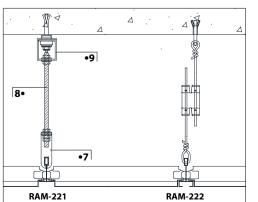
# ISOMETRIC DETAIL



#### PANEL-CARRIER JOINT DETAILS



#### OPTIONAL HANGING SOLUTIONS



#### PERIMETER OPTIONS

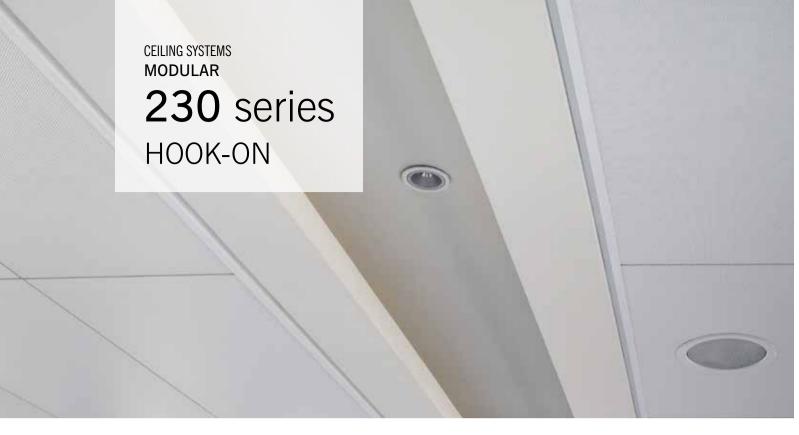
#### COMPONENTS

- 1 Panel 2 Main Carrier
- 3 Wall Trim
- **4** Primary Cross Tee 1200
- **5** Secondary Cross Tee 600
- 6 Adjustment Clip 7 DS Bracket ●
- 8 Threaded Rod •
- 9 Anti-Vibration Clip (TR) ●
- **10** Wedge ●



Optional

Custom sizes can be offered



Hook type ceiling designed for internal or external application. Modular ceiling panel laid on concealed 'J' profile. Lift upwards out and drop down to gain ceiling void access. Offered in wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.6mm to 3.0mm. Galvanized Steel: 0.5mm to 2.0mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated Decorative Patterns

#### **SIZES**

SINGLE OR DOUBLE SKIN PANELS (mm) **WIDTH**: 200 to 1000 **LENGTH:** 500 to 3000

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

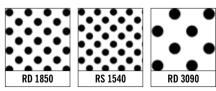


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

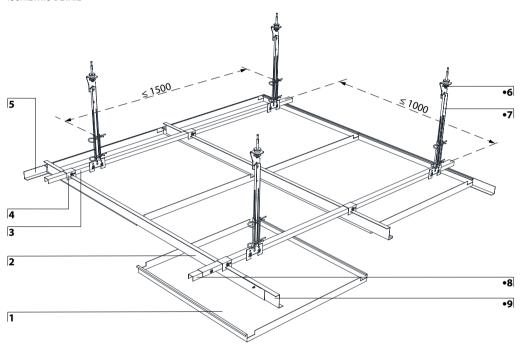
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 231 HOOK-ON

#### ISOMETRIC DETAIL



## COMPONENTS

- 1 Panel **2** Z Carrier
- 3 Stabilizer 4 ZC Bracket
- 5 Wall Trim
- 6 Anti-Vibration Clip (RH) ●
- 7 Rigid Hanging System •
- 8 ST Splice 9 C Splice ●
- **10** U Bucket ●
- 11 Threaded Rod ◆ 12 Anti-Vibration Clip (TR) •
- 13 Self-Adhesive Tape •
- **14** Wedge ●

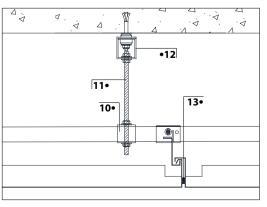


Optional

Custom sizes can be offered

33

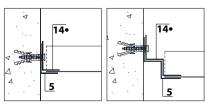
#### HANGING SOLUTION



#### JOINT DETAIL



#### PERIMETER OPTIONS





Snap-On type ceiling for internal application. Snap-On can lock the panel in to a T Grid suspension system. Fully demountable with downward accessibility by pushing the snap lock within the panel using a key tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 0.7mm. Galvanized Steel: 0.45mm to 0.6mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Perforated Decorative Patterns

#### SIZES (mm)

Panel width	RAM 241	
300 x 600	•	
300 x1 200	•	
300 x 600	•	
600 x 1200	•	
600 x 1800	•	
1200 x 1200	•	

+ Custom Sizes available upon request

#### COATING

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

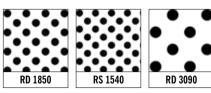


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

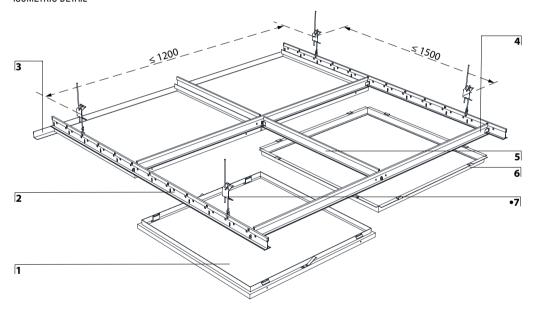
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 241 SNAP-ON

#### ISOMETRIC DETAIL



### COMPONENTS

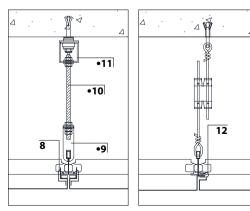
- 1 Panel
- 2 Main Carrier
- 3 Wall Trim 4 Primary Cross Tee 1200
- **5** Secondary Cross Tee 600
- **6** Light Tray
- **7** Adjustment Clip ●
- 8 Sanp-in Clip 9 Direction Suspension Bracket •
- **10** Threaded Rod •
- 11 Anti-Vibration Clip (TR) ●
- 12 Light Tray Clip
- 13 Wedge



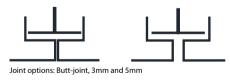
Custom sizes can be offered

35

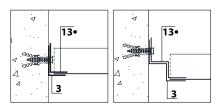
#### OPTIONAL HANGING SOLUTIONS



#### PANEL-CARRIER JOINT DETAILS



#### PERIMETER OPTIONS







An open cell continuous type ceiling. Offered in a versatile range of patterns. Special boxes can be provided for MEP Services. Manufactured with roll formed Aluminum U Profiles. Panels are built with upper and lower blades that dismantle to lend easy access to ceiling void. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000

#### **THICKNESS**

Aluminum: 0.4mm to 0.8mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### COATING

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### SIZES (mm)

	Cell size	Blade width	Blade height
RAM 311	50/60/75/86/100/120/150/200/300	10	40/50/55
RAM 312	75/86/100/120/150/200/300	20	50
RAM 313	75/86/100/120/150/200/300	12	42
RAM 314	50/60/75/86/100/120/150/200/300	10/20	40/50/55

+ Custom Sizes available upon request

#### COLORS

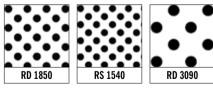
•	00-00			
Γ				
	RAL 9003	RAL 9010	RAL 9016	RAL 9006
L				

#### **SPECIAL FINISHES**



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

# RAM 311 SQUARE/RECTANGULAR (10MM WIDTH)

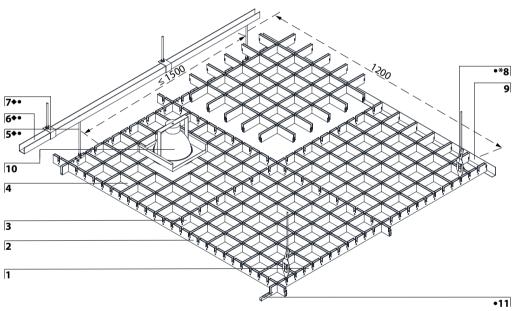
RAM 312 SQUARE/RECTANGULAR (20MM WIDTH)

RAM 313 PYRAMID (12MM WIDTH)

RAM 314 MIX

- 48 dB

#### ISOMETRIC DETAIL

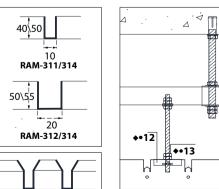


#### COMPONENTS

- 1 Main Carrier
- 2 Cross Bar 120
- **3** Cross Bar 60
- 4 Lower & Upper Blade
- 5 Threaded Rod ◆● **6** U Stabilizer ◆●
- **7** ST Bracket ◆●
- 8 Adjustment Clip \*●
- 9 Wall Trim
- 10 Light Box
- 11 C Splice **12** MC Bracket ◆●
- **12** MC Bracket Nut ◆●
- ◆ For external application
- \* For internal application
- Optional
- Custom sizes can be offered

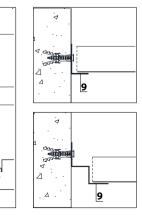
#### PANEL DESIGN PATTERN

RAM-313

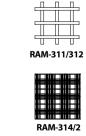


#### OPTIONAL HANGING SOLUTIONS

RAM-311/312/314



#### PERIMETER OPTIONS



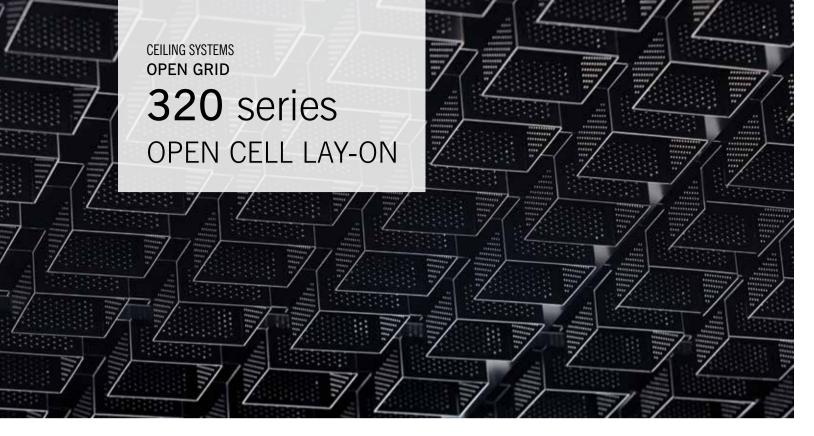
**CELL OPTIONS** 





RAM-314/5





Open cell Lay On T-Grid (24mm) suspension type ceiling. Offered in a variety of cell sizes. Special boxes can be provided for MEP Services. Manufactured with roll formed Aluminum U Profiles. Panels are build with upper and lower blades that dismantle to lend easy access to ceiling void. Offered in a wide range of sizes, colors & finishes.

### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

#### **THICKNESS**

0.45mm to 0.7mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### SIZES (mm)

	Cell size	Blade width	Blade height
RAM 321	75/100/120/150/200/300	24	33/50
RAM 322	100 (65 x 35)	0.70	50

+ Custom Sizes available upon request

#### COLORS

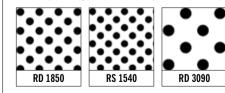


#### SPECIAL FINISHES



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

 $\begin{array}{l} {\rm Maximum~CAC~can~achieved~up~to} \\ {\rm --48~dB} \end{array}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

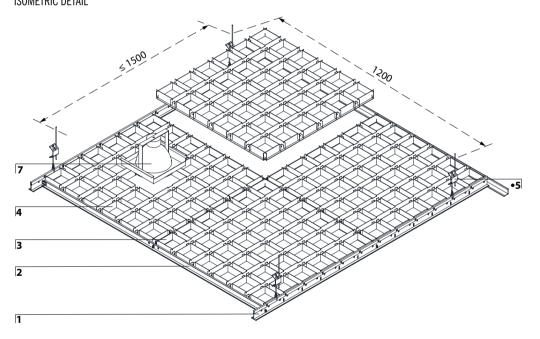
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

# RAM 321 SQUARE/RECTANGULAR (24MM WIDTH) RAM 322 CUBE

#### ISOMETRIC DETAIL



#### COMPONENTS

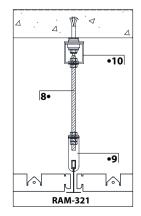
- 1 RAM 321/322 Main Carrier
- 2 Primary Cross Tee 1200
- **3** Secondary Cross Tee 600
- 4 RAM 321/322 Lower & Upper Blade

41

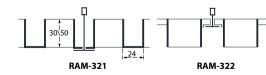
- 5 Adjustment Clip ●
- 6 Wall Trim7 Light Box
- 8 Threaded Rod •
- 9 Direct Hanging Bracket •
- **10** Anti-Vibration Clip (TR) ●
- Optional

Custom sizes can be offered

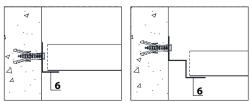
#### OPTIONAL HANGING SOLUTIONS

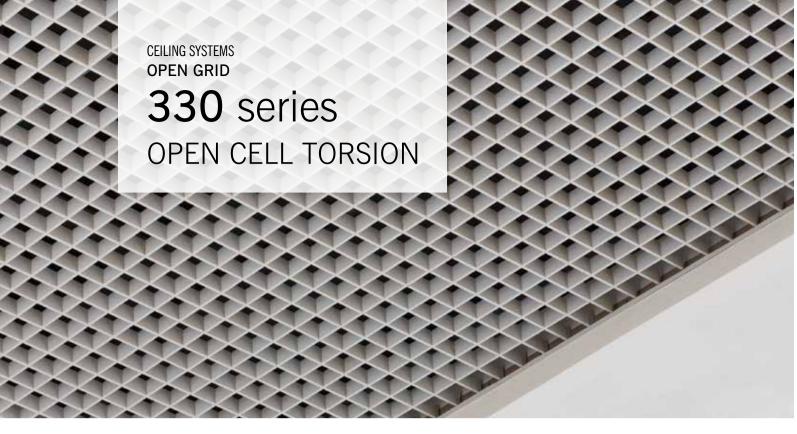


#### JOINT DETAIL



#### PERIMETER OPTIONS





Open cell for high ceiling types. Offered in a variety of cell sizes and a versatile range of patterns. Special boxes can be provided for MEP Services. Ideal for exhibition centers, airports, car showrooms, & commercial establishments. Offered in a wide range of sizes, colors & finishes.

### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

#### **THICKNESS**

1.0 mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain

#### Plain

Perforated

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### SIZES (mm)

	Cell size	Blade width	Blade height
RAM 331	40/75/100/120/150/200/300	0.70-1.00	40-200

+ Custom Sizes available upon request

#### COLORS

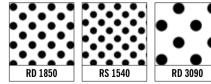


#### SPECIAL FINISHES



+ See page 144 for additional colors & special finishes available

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# X

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



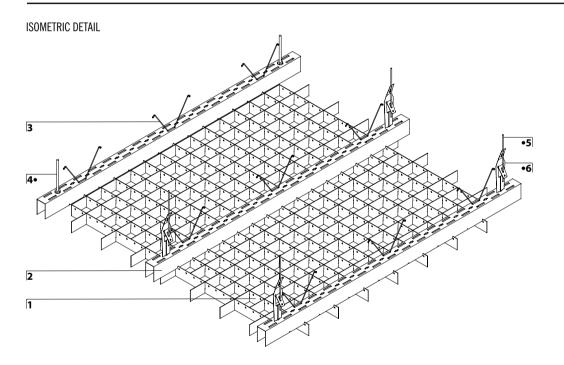
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### RAM 331 SQUARE/RECTANGULAR DIACELL

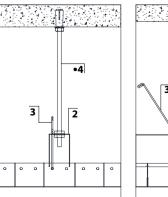


#### COMPONENTS

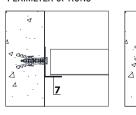
- 1 Upper & Lower Blade
- **2** Carrier
- 3 Torsion Spring Wire4 Threaded Rod
- 5 Wire Hanger ●
- 6 Adjustment Clip ●
- 7 Wall Trim
- Optional

Custom sizes can be offered

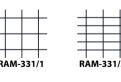
#### SECTION DETAIL



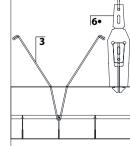
#### PERIMETER OPTIONS



#### CELL OPTIONS



RS 1540 RD 3090







A hook-on type self-supported ceiling for corridor solutions. Modular ceiling panels are laid on concealed 'J' profile. Can be removed from the ceiling and easily restored. Stays hinged to one side of the corridor for damage protection. Easy accessibility to ceiling void without any intermediate support. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 1.0mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

Decorative Patterns

#### SIZE (mm)

WIDTH 300 to 700 LENGTH 900 to 3000

EDGE

Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

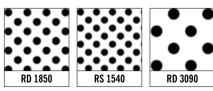


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to - 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

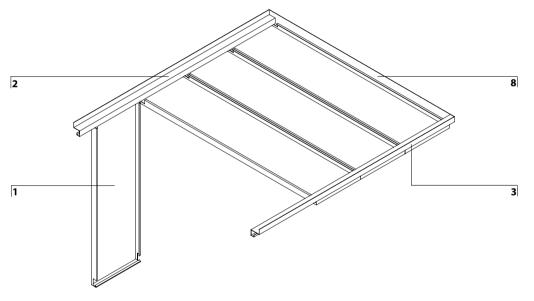
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 411 HOOK-ON

#### ISOMETRIC DETAIL



#### COMPONENTS

- 1 Panel
- 2 JU Profile (Fix)
- **3** JV Profile (Fix)
- **4** Z Profile Support Bracket 5 Bolt & Nut
- **6** JU Profile (Adjustable)
- **7** JV Profile (Adjustable)
- 8 Shadow Cover Profile
- **9** U Channel Profile



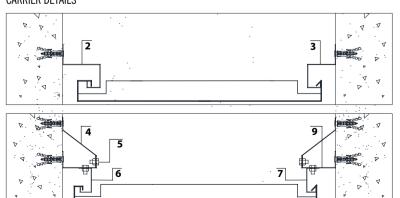
(V-) Luminous Panel •

Optional

Custom sizes can be offered

47

#### CARRIER DETAILS



#### PERIMETER OPTIONS



PANEL JOINTS DETAIL



corridor solutions
420 series
SELF SUPPORTED
LAY-IN

A lay-in type self-supported ceiling for corridor solutions. No suspension is required other than the "L" or "W" trim at the walls. An ideal solution for congested areas with ducts & other MEP services, in areas of limited ceiling drop. Fully demountable with easy accessibility to ceiling void without any intermediate support. Panels overlap at the long side. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 0.8mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain

Perforated
Decorative Patterns

SIZE (mm)

WIDTH 200 to 700 LENGTH 900 to 3000

EDGE

Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

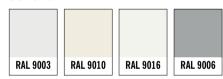
+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

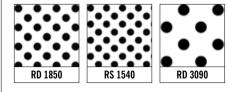


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

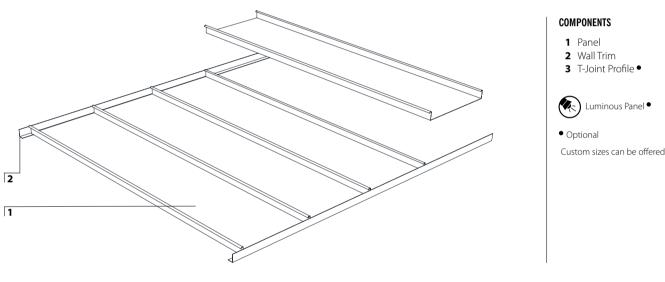
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

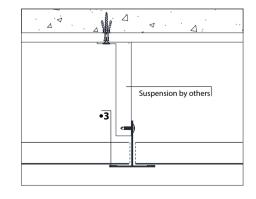
Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 421 LAY-IN

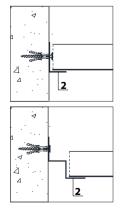
#### ISOMETRIC DETAIL



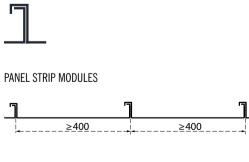
#### T-JOINT SECTIONAL DETAIL



#### PERIMETER OPTIONS



#### JOINT DETAIL



49



A clip-in type self-supported ceiling for corridor solutions. Modular ceiling panels clipped into concealed 'Z' profile. Fully demountable with downward accessibility using panel removal access key tool. Easy accessibility to ceiling void without any intermediate support. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 0.8mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

Decorative Patterns

#### SIZE (mm)

WIDTH 300 to 700 LENGTH 900 to 3000 EDGE Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

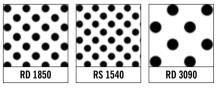


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

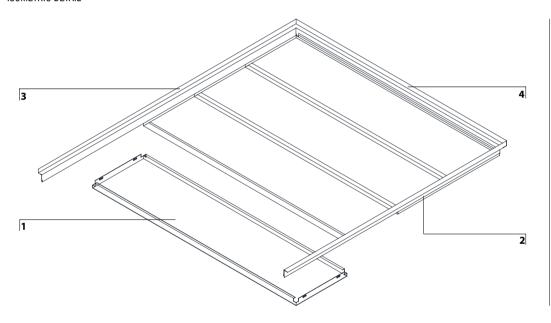
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 431 CLIP-IN

#### ISOMETRIC DETAIL



#### COMPONENTS

- 1 Panel
- 2 ZL Profile (Adjustable)
- 3 ZL Profile (Adjustable)
- 4 Shadow Cover Profile5 Bolt & Nut
- **6** L Profile

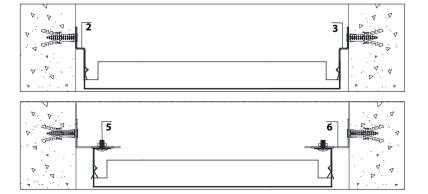


Optional

Custom sizes can be offered

51

#### CARRIER DETAILS



#### PERIMETER OPTIONS



#### PANEL JOINTS DETAIL





A hinge down type self-supported ceiling for corridor solutions. Modular panel system with easy accessibility to ceiling void without any intermediate support. Panels can slide to any convenient position. Offered in a wide range of sizes, colors & finishes.

### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 0.8mm.

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated Decorative Patterns

SIZE (mm)

WIDTH
300 to 700
LENGTH
900 to 3000
EDGE
Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

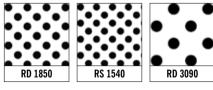


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

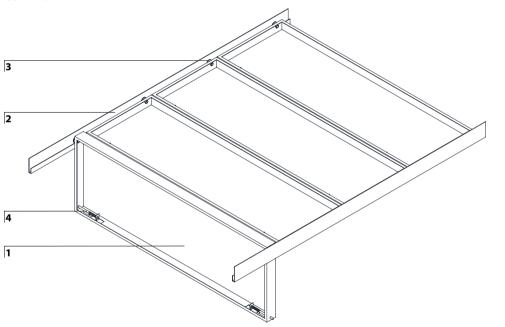
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 441 RAIL-SLIDE

### ISOMETRIC DETAIL



## COMPONENTS

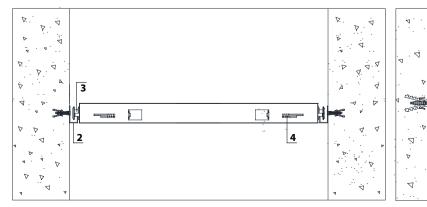
- 1 Panel
- 2 L Profile
- **3** Sliding Wheels
- 4 Locking Latches



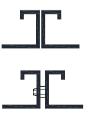
Optional

Custom sizes can be offered

#### SECTION DETAIL



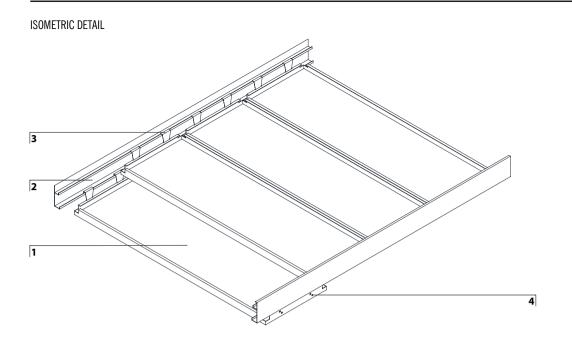
#### PANEL JOINTS DETAIL



53

## RAM 442 STEP-SLIDE

SECTION DETAIL



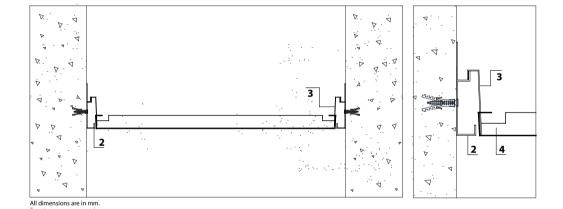
#### COMPONENTS

- 2 Step Hook Profile Profile3 Hook Profile
- 4 Blind Rivet



Optional

Custom sizes can be offered

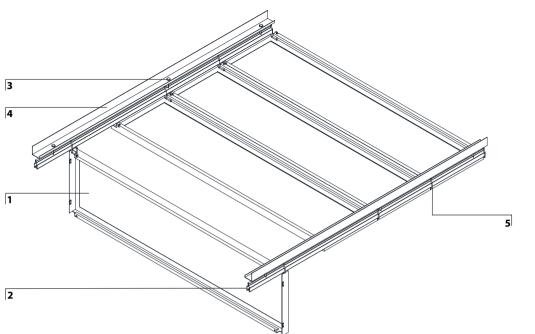


#### PANEL JOINTS DETAIL



### RAM 443 HOOK-SLIDE

#### ISOMETRIC DETAIL



#### COMPONENTS

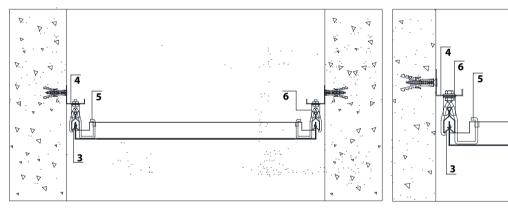
- 1 Panel
- 2 Narrow Main Carrier
- 3 HBolt & Nut
- 4 L Profile
- 5 Hinge Clip6 Carrier Bracket



Optional

Custom sizes can be offered

#### SECTION DETAIL



#### PANEL JOINTS DETAIL







This continuous beam profile ceiling is an ideal solution for integrating ceiling with demountable partition. Available with sound attenuation panels. Can be manufactured in single & double skin. The beam profile can be used to integrate light fittings, AC grills, and other MEP services. Offered as recess, flush, or reveled edge with the panel. Panels are laid on the beam profile, which can be produced in multiple sizes in order to avoid cutting the panels. Lifts upwards for access to ceiling void. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

PANELS (mm)

Aluminum or Galvanized Steel:

0.5 to 1.0

BEAMS (mm)

Galvanized Steel: 0.5 to 2.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain

Perforated

Decorative Patterns

#### **SIZES**

TYPE

Continuous

Inverted

PANEL JOINT DETAIL
Square

Square

**BEAM WIDTH (**mm): 100-300

DIMENSIONS (mm)

600x600/750x750/900x900/1000x1000/ 1200x1200/1500x1500 + Custom sizes are available upon request

#### COATING

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

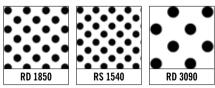


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to

— 48 dB

Perforated & Sound Attenuation cover

# X

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

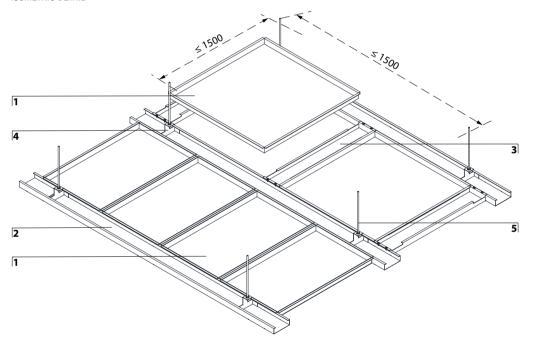
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

# RAM 511 CONTINUOUS RAM 512 INVERTED

#### ISOMETRIC DETAIL



### COMPONENTS

- 1 Panel
- 2 Main Beam Carrier
- 3 Cross Beam4 Hanging Bracket
- 5 Threaded Rod6 Anti-Vibration Clip (RH)
- 7 Wall Trim
- 8 Wall End Bracket ●
- 8 Inverted Beam (Direct)
- 8 Inverted Beam (Indirect)

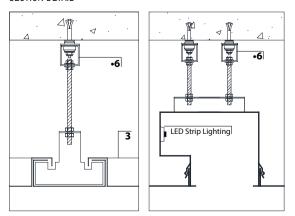




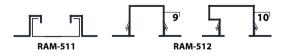


Optional
 Custom sizes can be offered

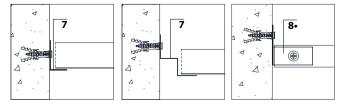
#### SECTION DETAIL



#### PANEL-BEAM JOINT DETAIL



#### PERIMETER OPTIONS





This threaded/flush beam profile ceiling is an ideal solution for integrating ceiling with demountable partition, hanging & support for light (weight) signs & multimedia materials. Available with sound attenuation panels. Can be manufactured in single & double skin. The beam profile can be used to integrate light fittings, AC grills, and other MEP services. Offered as recess, flush, or reveled edge with the panel. Panels are laid on the beam profile, which can be produced in multiple sizes in order to avoid cutting the panels. Lifts upwards for access to ceiling void. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

PANELS (mm)

Aluminum or Galvanized Steel:

0.5 to 1.0

BEAMS (mm)

Galvanized Steel: 0.5 to 2.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain

Perforated
Decorative Patterns

#### SIZE

TYPE

RAM 521: Threaded profile RAM 523: Flush

**BEAM WIDTH (**mm): 100-300

DIMENSIONS (mm)

600x600/750x750/900x900/1000x1000/ 1200x1200/1500x1500

 $+ \ {\hbox{\it Custom sizes are available upon request}} \\$ 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

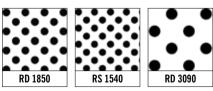


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

 $\begin{array}{l} \text{Maximum CAC can achieved up to} \\ --48 \text{ dB} \end{array}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



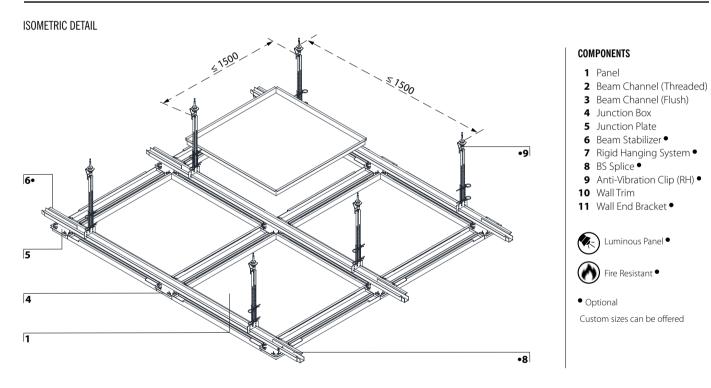
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

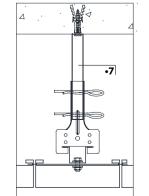
"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

# RAM 521 THREADED RAM 522 FLAT

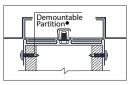


### OPTIONAL HANGING SOLUTIONS PANEL-BEAM JOINT DETAIL

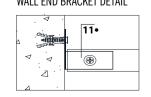




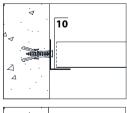
#### BEAM PARTITION DETAIL

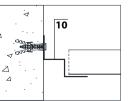


### WALL END BRACKET DETAIL



#### PERIMETER OPTIONS





 $0 ag{61}$ 



This system is supported on a heavy duty concealed plate is an ideal solution for integrating ceiling with demountable partition. Available with sound attenuation panels. Can be manufactured in single & double skin. The beam profile can be recess, flush, & reveled edge with the panel, and can be demountable independently in order to be replaced by light fittings, AC grills, or top track partitions. The beam is demountable with downward accessibility. The panel is demountable with upward accessibility. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

PANELS (mm)

Aluminum or Galvanized Steel:

0.5 to 1.0

BEAMS (mm)

Galvanized Steel:

0.5 to 2.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain

Perforated

Decorative Patterns

#### SIZE

TYPE

Hook

PANEL JOINT DETAIL

Square

**BEAM WIDTH (**mm): 100-300

**DIMENSIONS** (mm)

600x600/750x750/900x900/1000x1000/ 1200x1200/1500x1500

 $+ \ {\hbox{\it Custom sizes are available upon request}} \\$ 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

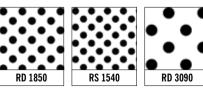


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# (X)

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

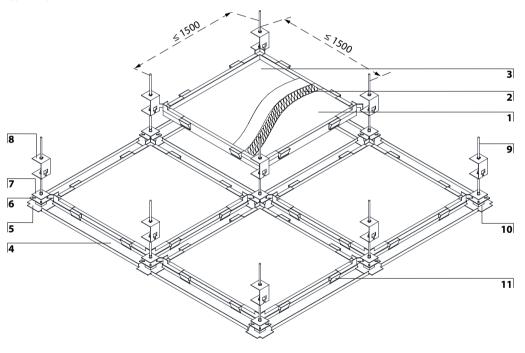
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 531 HOOK-ON

#### ISOMETRIC DETAIL



### COMPONENTS

- 1 Panel
- 2 Rockwool Insulation
- **3** Sound Attenuation Panel ●
- 4 Main Beam Channel
- 5 Lay-in Junction Plate6 Suspension Plate
- **7** Security Plate
- 8 Adjustable Hanging Bracket9 Threaded Rod
- 10 Threaded Profile
- 11 Half Spring Clip
- 11 Haif Spring Clip
- 12 Hook Profile
- **13** Anti-Vibration Clip (TR) ●
- 14 Wall End Bracket •
- **15** Wall Trim





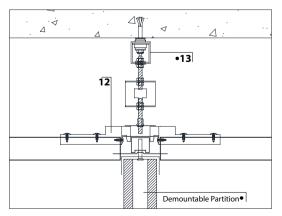


,

Optional

Custom sizes can be offered

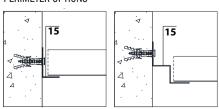
#### SECTION DETAIL



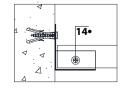
#### PANEL JOINT DETAIL



#### PERIMETER OPTIONS



#### WALL END BRACKET DETAIL







This hinge down type modular torsion spring ceiling system with reveled edge is an ideal solution for mega size panels and multiple height ceilings. It is highly sustainable and durable. Available with sound attenuation panels. Can be produced in double skin. Fully demountable with downward hinge down accessibility without using any special tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 1.0mm.

- + Custom thickness are available upon reauest
- + Spring Material- Stainless Steel for both options

#### **SURFACE FINISH**

Plain Perforated Decorative Patterns

#### SIZE

PANEL JOINT DETAIL

Square

**DIMENSIONS** (mm) 600x600/600x1200/1200x1200

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

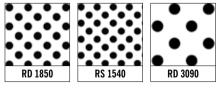


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

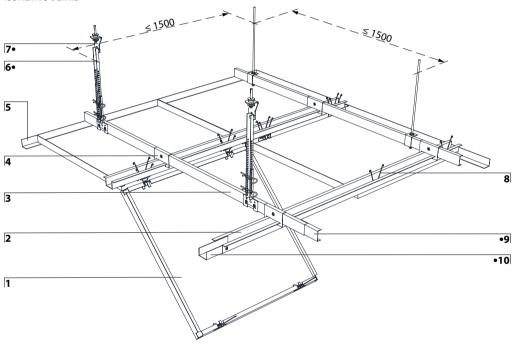
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### RAM 611 SQUARE/RECTANGULAR

#### ISOMETRIC DETAIL



#### COMPONENTS

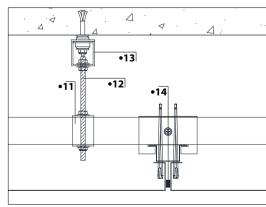
- 1 Panel
- 2 Torsion Spring Carrier
- 3 Stabilizer
- 4 TC Bracket 5 Wall Trim
- 6 Rigid Hanging System ●
- 7 Anti-Vibration Clip (RH) ●
- 8 Torsion Spring Wire
- 9 ST Splice ●
- 10 C Splice ●
- 11 Universal Bracket
- **12** Threaded Rod ●
- **13** Anti-Vibration Clip (TR) ●
- **14** Self-Adhesive Tape ●



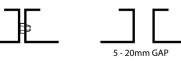
Optional

Custom sizes can be offered

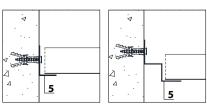
#### SECTION DETAIL



### JOINT DETAIL



#### PERIMETER OPTIONS





This hinge down type triangular torsion spring ceiling system with reveled edge is an ideal solution for mega size panels and multiple height ceilings. A highly sustainable and durable system. Available with sound attenuation panels. Can be manufactured in double skin. A heavy duty torsion spring system is with a secured panel to hinged down from the ceiling. Fully demountable with downward hinge down accessibility without using any special tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 1.0mm.

- + Custom thickness are available upon reauest
- + Spring Material- Stainless Steel for both options

#### **SURFACE FINISH**

Plain Perforated Decorative Patterns

#### SIZE

TRIANGLE TYPE

Equilateral Isosceles Scalene

PANEL JOINT DETAIL

3mm/5mm gap

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

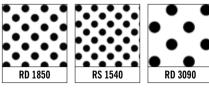


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



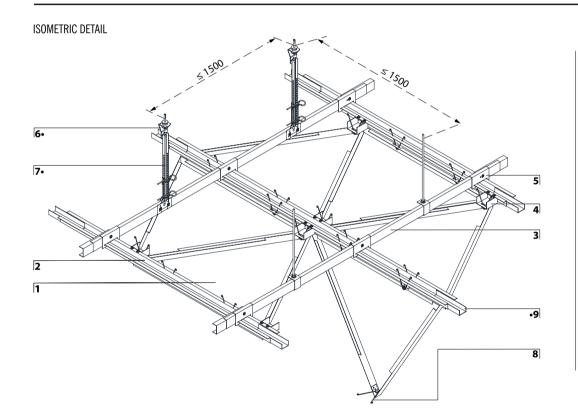
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

### RAM 621 TRIANGULAR FLAT RAM 622 TRIANGULAR 3D



#### COMPONENTS

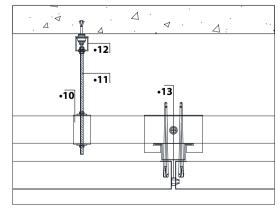
- 1 Panel (RAM 621)
- 2 Torsion Spring Carrier
- **3** Stabilizer
- 4 Carrier Bracket
- 5 Stabilizer Bracket
- 6 Anti-Vibration Clip (RH) ●
- 7 Rigid Hanging System •
- 8 Torsion Spring Wire 9 C Splice •
- 10 Universal Bracket
- 11 Threaded Rod 12 Anti-Vibration Clip (TR) ●
- 13 Self-Adhesive Tape •
- 14 Wall Trim



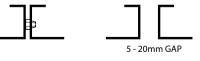
Optional

Custom sizes can be offered

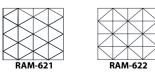
#### SECTION DETAIL



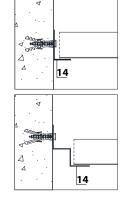
#### JOINT DETAIL



#### PANEL DESIGN PATTERN



#### PERIMETER OPTIONS







A clip in hinge down ceiling type, clipped in to a concealed suspension system with non-perforated finish making it an ideal solution for industrial & central kitchens. Fire resistance performance close to 2 hours, and classified as medium security. Hinge down accessibility using panel removal access key tool. Offered in a wide range of sizes, colors & finishes.

## **FEATURES**

#### **MATERIAL**

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Galvanized Steel: 0.7mm

#### **SURFACE FINISH**

Plain Perforated Decorative Patterns

#### SIZE

PANEL JOINT DETAIL (mm) Square:

W ≤600mm x L ≤1800mm

3mm Beveled: 600x600

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

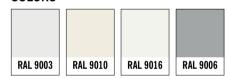
+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

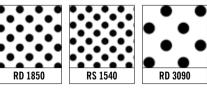


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE RESISTANCE

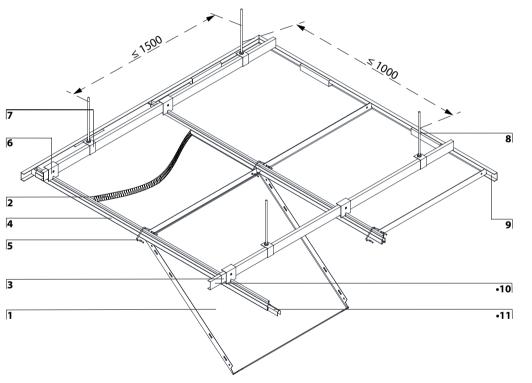
Rated up to 115 minutes tested as per BS476: Part 23: 1987

LR- 0.85-0.96 tested as per ASTM

#### LIGHT REFLECTANCE (LR) Achieved by the metal ceiling is

#### **RAM 711** F90

#### ISOMETRIC DETAIL

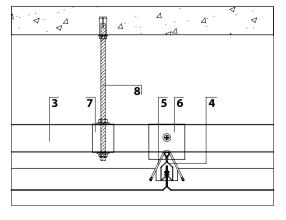


#### COMPONENTS

- 1 Panel
- 2 Rockwool Infill
- 3 Stabilizer 4 Narrow Carrier
- **5** Security Clip
- 6 NC Bracket
- **7** ST Bracket 8 Threaded Rod
- 9 Wall Trim
- **10** ST Splice **11** C Splice ●
- **12** Wedge ●
- 13 Anti-Vibration Clip (TR) •
- Optional

Custom sizes can be offered

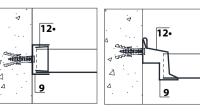
#### SECTION DETAIL



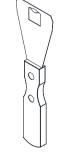
#### JOINT DETAILS



#### PERIMETER OPTIONS



#### ACCESS TOOL •





Concealed fire rated ceiling panels with spring action latch lock on beam profile. An ideal solution for integrating ceiling with demountable partition, hanging & support for light (weight) signs & multimedia materials. For use in airports, universities & office buildings. Fire resistance performance exceed to 2 hours. High acoustic performance of sound absorption as well as tested with high CAC 51db sound transmission. Fully demountable with downward accessibility using panel removal access key tool. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

PANELS (mm)

Aluminum or Galvanized Steel:

BEAMS (mm)

Galvanized Steel

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain

Perforated Decorative Patterns

#### SIZE

TYPE

concealed

PANEL JOINT DETAIL

74

DIMENSIONS (mm)

600x600/750x750/900x900/1000x1000/ 1200x1200/1500x1500

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

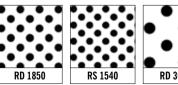


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE

**RAM 721** F120

ISOMETRIC DETAIL

7•



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE RESISTANCE

Fire Rated up to 132 minutes tested as per BS476: Part 23: 1987.

## LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### COMPONENTS

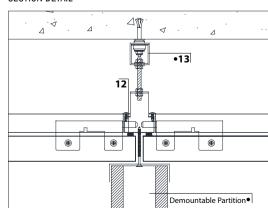
- 1 Panel
- 2 Rockwool Infill
- 3 Sound Attenuation Panel 4 Spring Action Latch Lock
- 5 Main Beam Channel
- 6 Cross Beam Channel
- 7 Wall End Bracket 8 Threaded Rod
- **9** Hanging Bracket
- **10** Cross Spacer
- 11 B Splice ●
- 12 Self-Adhesive Acoustic Tape
- **13** Anti-Vibration Clip (TR) ●
- 14 Wall Trim
- 15 Wall End Bracket
- Optional

Custom sizes can be offered

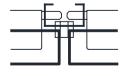


Fire Resistant •

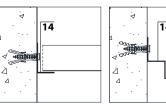
#### SECTION DETAIL



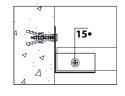
## PANEL JOINT DETAIL



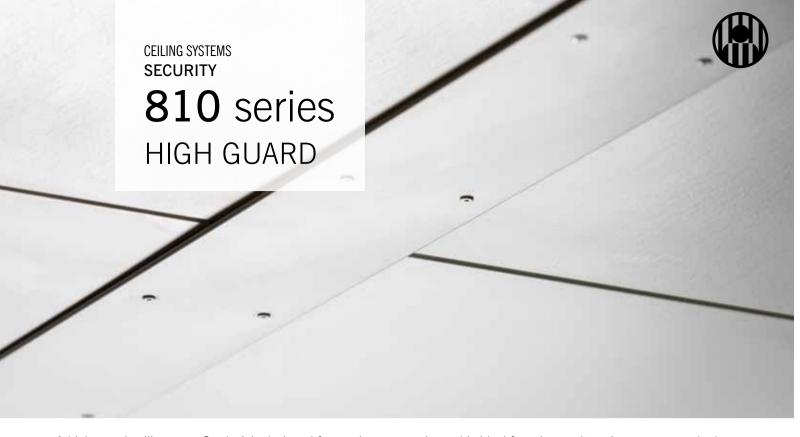
#### PERIMETER OPTIONS



#### WALL END BRACKET DETAIL







A high guard ceiling type. Grade 1 is designed for maximum security and is ideal for prisons, detention centers, and other high security zones. Security access panel with master key solution available. Grade 4 is designed for light security and is ideal for airport washrooms, classrooms, light detention centers, and other light security zones. Security access panel with special tool available. Tested as per ASTM F2322-2012 standards for maximum Grade 1 criteria & tested for load bearing capacity. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Galvanized steel: RAM 811: 3.0mm RAM 812: 2.0mm

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### SIZE

PANELS (mm) 600x600/600x1200

- +RAM 811 (with security brackets)
- +RAM 812 (with security lock)
- + Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

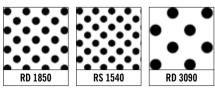


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### SECURITY

Complies with ASTM F2322 standards for physical assault on vertical fixed barries for detention and correctional facilities



#### FIRE PERFORMANCE

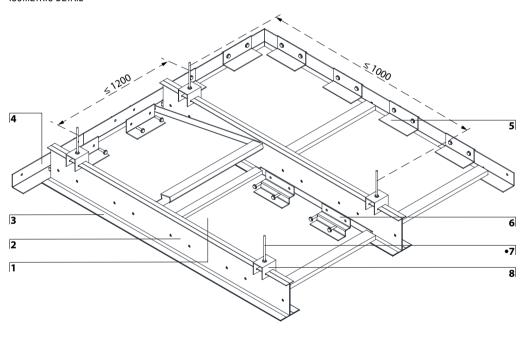
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke
Development Index tested as per
ASTM E84 (Class 1 or A)

# RAM 811 SECURITY CEILING GRADE 1 RAM 812 SECURITY CEILING GRADE 4

#### ISOMETRIC DETAIL



#### COMPONENTS

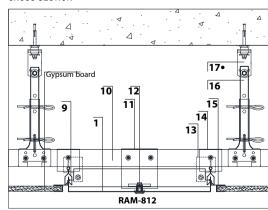
- 1 Panel
- 2 Carrier Profile
- 3 Carrier Cap4 Wall Trim
- **5** L Wedge
- 6 W Wedge
- 7 Threaded Rod ●8 C Bracket
- 9 Narrow Carrier
- 10 Stabilizer
- 11 Security Plate
- 12 Budget Security Lock & Key
- 13 SL Bracket
- **14** NC Bracket
- **15** F Profile
- 15 FPROME
- 16 Rigid Hanging System17 Anti-Vibration Clip (RH) ●

79

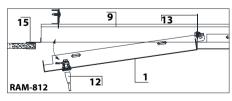
Optional

Custom sizes can be offered

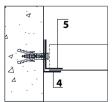
#### CROSS SECTION



#### ACCESS PANEL SECTION



#### PERIMETER OPTION







Slim profile and a modern look. For use in airports, metro stations, car showrooms & libraries. Ideal for open spaces with high ceilings to see through the void. Can be produced in variable modules between blades, with different depths, up to 4000mm long. Available in straight or formed V bent & solid line. Fully demountable. A special service tray can be produced to integrate light fitting & other MEP services in order to provide clear finish. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 1.0mm. Galvanized Steel: 0.5mm to 0.7mm.

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

HEIGHTS (mm) RAM 911: 100–200 RAM 912: 300–600

**SPACING** (mm) 100/150/200/300

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **COLORS**

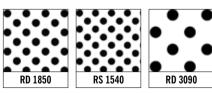


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# X

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



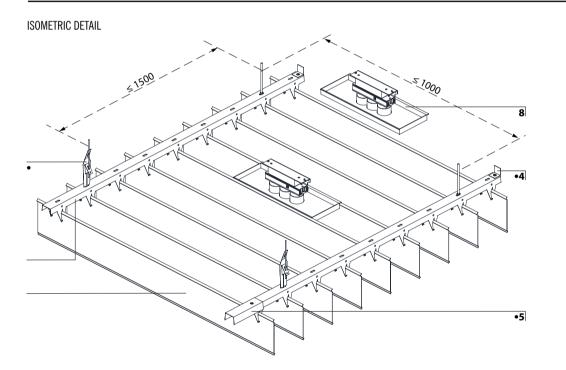
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

## RAM 911 V LINE RAM 912 SOLID LINE

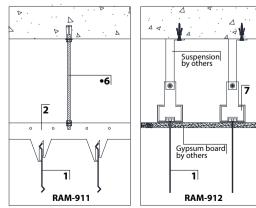


#### COMPONENTS

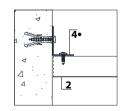
- 1 Blade
- 2 RAM 911 Carrier
- 3 Adjustment Clip •4 Wall End Bracket •
- **5** C Splice ●
- 6 Threaded Rod ●
- 7 Hanging Bracket8 Service Tray
- Optional

Custom sizes can be offered

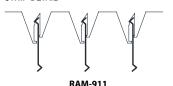
#### OPTIONAL HANGING SOLUTIONS

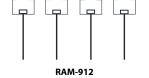


#### PERIMETER DETAILS



#### STRIP DETAIL





83



A deep profile U shape with a modern Look. For airports, metro stations, car showrooms & libraries. Ideal for open spaces & high ceiling level to view through the void. Can be produced in variable modules between baffles, in a variety of depths up to 300mm. Deep baffle 200-300mm, is available with the proper acoustic insulation and is fully demountable. Integrated light fittings & other MEP services are available in order to provide clear finish. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum: 0.5mm to 1.0mm

Galvanized steel:

RAM 921: 0.5mm to 0.9mm

RAM 922: 0.5mm to 0.7mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

HEIGHTS (mm) RAM 921: Up to 100 RAM 922: Up to 300

WIDTH (mm)

RAM 921: 10/20/30 RAM 922: 25/40/100/200

LENGTH (mm) UP TO 3000

 $+ \ {\hbox{\it Custom sizes are available upon request}} \\$ 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool slabs** conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

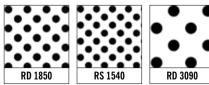


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# (X)

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

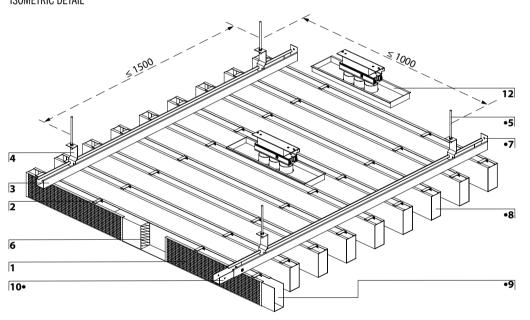
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

## RAM 921 FINS RAM 922 BAFFLE

#### ISOMETRIC DETAIL

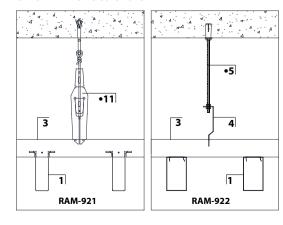


## COMPONENTS

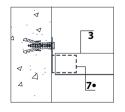
- **1** Baffle
- 2 Security Clip
- 3 Carrier4 Hanging Bracket
- 5 Threaded Rod ●
- 6 Rockwool7 Wall End Bracket •
- 8 End Cap ●
- 9 RF Splice •
- **10** C Splice •
- 11 Adjustment Clip •
- **12** Service Tray
- Optional

Custom sizes can be offered

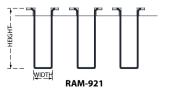
#### OPTIONAL HANGING SOLUTIONS

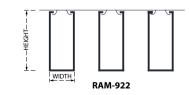


#### PERIMETER DETAILS



#### STRIP DETAILS





85



Non-conventional profile shape with a modern look. A unique round profile that can be manufactured in perforated finishes. For airports, metro stations, car showrooms & libraries. Can be produced in variable modules between baffles. Installed, can produce a curved or wave shape. It is fully demountable. A special service box can be produce to integrate light fitting & other MEP services in order to provide a clear finish. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

#### **THICKNESS**

Aluminum (mm) RAM 931: 0.5 to 0.7 RAM 932: 1.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### SIZE

HEIGHTS (mm) RAM 931: 60 RAM 932: 45/55/70/80

WIDTH (mm) RAM 931: 80 RAM 932: 25/50

SPACING (mm) RAM 931: 20

RAM 932: 75/100/15/0200

LENGTH (mm) UP TO 3000

 $+ \ {\hbox{\it Custom sizes are available upon request}} \\$ 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### COLORS



#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS







+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

 $\begin{array}{l} \mbox{Maximum CAC can achieved up to} \\ --48 \mbox{ dB} \end{array}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



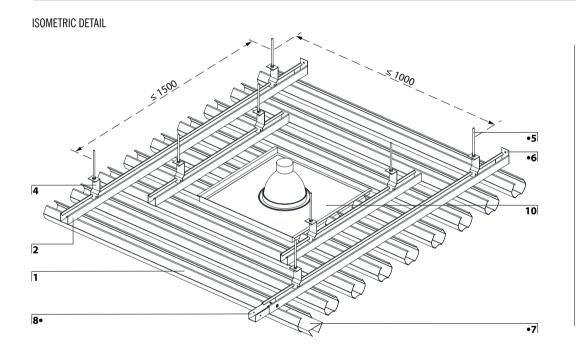
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

## RAM 931 C LINE RAM 932 O LINE

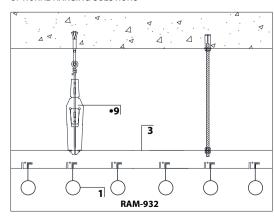


#### COMPONENTS

- 1 Tube
- 2 RAM 931 Carrier
- 3 RAM 932 Carrier4 Hanging Bracket
- 5 Threaded Rod ●
- 6 Wall End Bracket
- 7 T Splice •8 C Splice •
- 9 Adjustment Clip ●
- **10** Service Box
- Optional

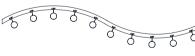
Custom sizes can be offered

#### OPTIONAL HANGING SOLUTIONS



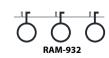
# PANEL DESIGN PATTERN



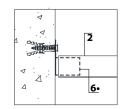


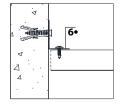
#### STRIP DETAILS





#### PERIMETER DETAILS







A non-conventional profile shape with a modern look. Ideal for open spaces & high ceiling level to view through the void. For airports, metro stations, car showrooms & libraries. Can be produced with variable modules in between. Fully demountable. Special service tray can be produce to integrate light fitting & other MEP services in order to provide clear finish. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

#### **THICKNESS**

Aluminum (mm) 0.5 to 0.6

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

HEIGHT (mm) 300

WIDTH (mm) 100

#### LENGTH

Up to 3000mm

**SPACING** (mm) 50/100/150

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool slabs** conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

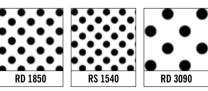


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# (X)

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

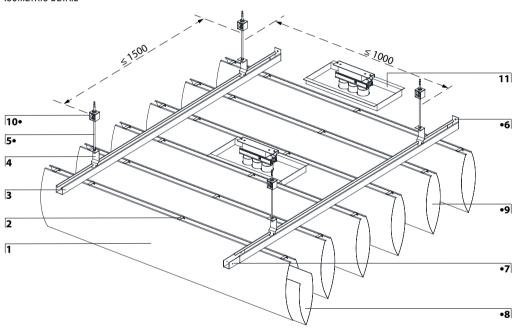
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 941 DIASPACE

#### ISOMETRIC DETAIL

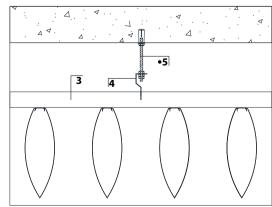


#### COMPONENTS

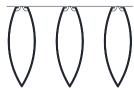
- **1** Baffle
- 2 Security Clip
- **3** Carrier
- 4 Hanging Bracket ●5 Threaded Rod ●
- 6 Wall End Bracket
- **7** C Splice ●
- 8 D Splice •
- 9 End Cap ●10 Anti-Vibration Clip (TR) ●
- **11** Service Tray
- Optional

Custom sizes can be offered

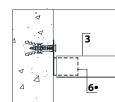
#### SECTION DETAIL



#### STRIP DETAIL



#### PERIMETER DETAIL





An architectural solution for connecting ceilings to walls. Ideal for open spaces & high ceiling level to view through the void. For airports, metro station, car showroom, & libraries. Can be produced in horizontal as well as vertical curvature and in variable depths up to 1000mm. Acoustic insulation for optimal performance and is fully demountable. A special service tray can be produced to integrate light fitting & other MEP services in order to provide clear finish. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum (mm) 0.5 to 1.0

Galvanized Steel (mm) 0.5 to 0.9

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

**HEIGHT** (mm): Up to 50mm **WIDTH** (mm): 10/20/30 LENGTH: Up to 3000mm

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

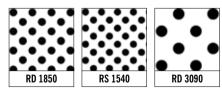


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

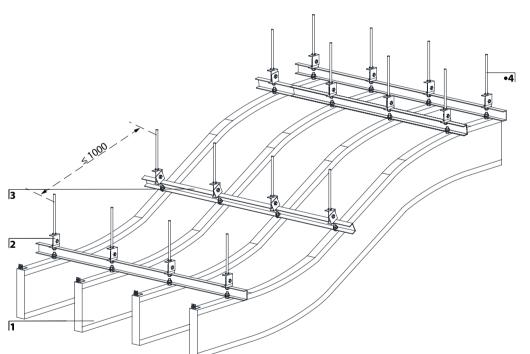
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### **RAM 951** 3D

#### ISOMETRIC DETAIL

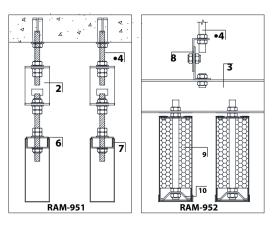


## COMPONENTS

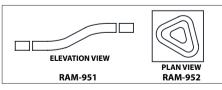
- **1** Baffle
- 2 Flexible Bracket
- **3** Stabilizer **4** Threaded Rod ●
- **5** F Splice
- **6** Expension Plate 7 Hanging Bracket
- 8 L Angle Profile
- **9** Honey Comb
- 10 Nut Bracket
- Optional

Custom sizes can be offered

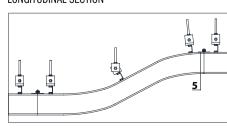
#### OPTIONAL HANGING SOLUTIONS



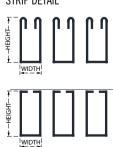
#### PANEL DESIGN PATTERN



#### LONGITUDINAL SECTION



#### STRIP DETAIL







A multi-dimensional ceiling profile. Can be used on walls & high levels. Light weight and fully demountable. An acoustic pad can added to improved acoustic performance. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

#### **THICKNESS**

Aluminum (mm) 0.7 to 1.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### SIZE

WIDTH (mm): 600 LENGTH (mm): Up to 2000

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

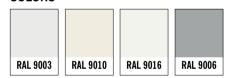
+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool slabs** conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

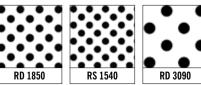


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

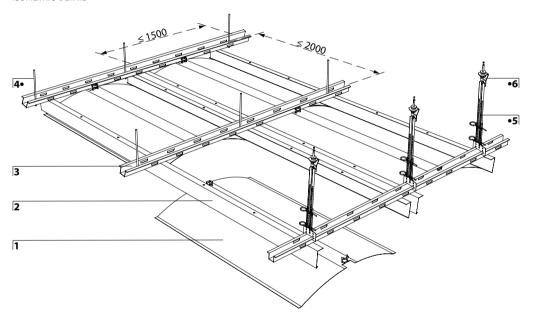
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 1011 WINGS

#### ISOMETRIC DETAIL

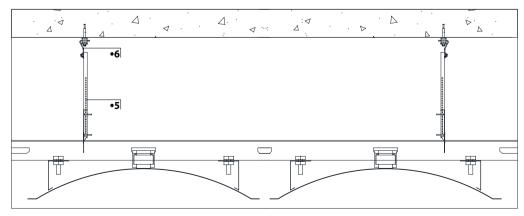


#### COMPONENTS

- 1 Panel
- 2 Inverted L Bracket
- 3 Main Carrier4 Threaded Rod ●
- 5 Rigid Hanging System ●
- 6 Anti-Vibration Clip ●
- Optional

Custom sizes can be offered

#### OPTIONAL HANGING SOLUTIONS









A multi-dimensional ceiling profile. Can be installed as Island module or wall to wall ceiling. Perforated to provide high acoustic performance. Can be cut to size as per project requirement. Fully demountable. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel 0.5mm to 0.9mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

WIDTH (mm): 300-600 **LENGTH** (mm): 600–2000

EDGE DETAIL Square

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70μ -80μ)

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

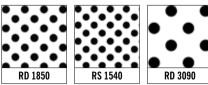


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to  $-48 \, \mathrm{dB}$ 

Perforated & Sound Attenuation cover

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



#### FIRE PERFORMANCE

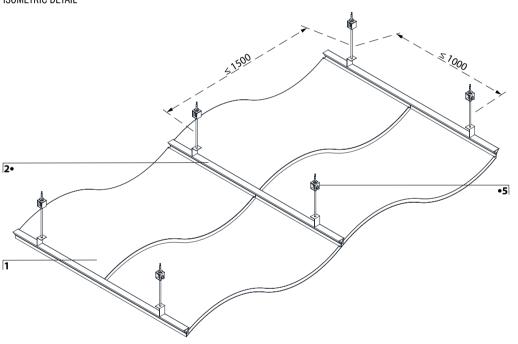
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 1021 WAVES

#### ISOMETRIC DETAIL

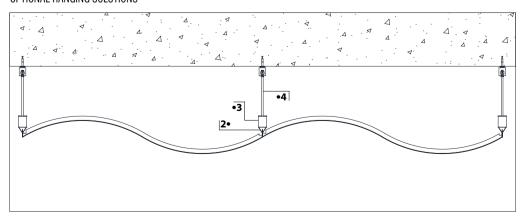


#### COMPONENTS

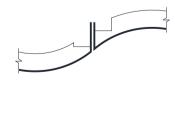
- 1 Panel
- 2.1 Narrow Carrier
- 2.2 Spring Tee Carrier ●
- 2.3 Z Carrier •
- **2.4** Torsion Spring Carrier •
- 3 Direct Hanging Bracket **4** Threaded Rod ●
- 5 Anti-Vibration Clip (TR) ●
- Optional

Custom sizes can be offered

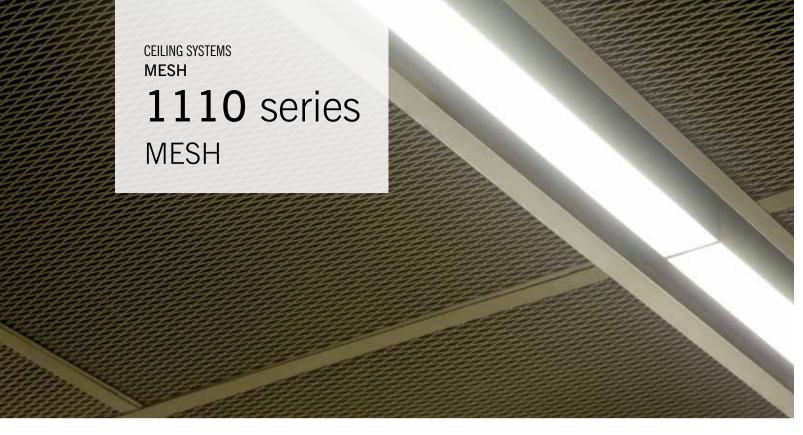
#### OPTIONAL HANGING SOLUTIONS



#### PANEL JOINT DETAIL







A modern looking ceiling profile ideal for open spaces, in airports, metro stations, public transport facilities, & libraries. Can be used as a security ceiling when the mesh is produced in high gauge and proper suspension. Acoustic insulation can provide high acoustics performance. Fully demountable, complying with any accessibility requirements. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel: 0.5mm to 3.0mm

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Expanded Woven

#### SIZE

WIDTH (mm): 300-1200 LENGTH (mm): 600-2400

+ Custom sizes are available upon request

#### COATING

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

Rockwool slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLORS**

RAL 9003	RAL 9010	RAL 9016	RAL 9006

#### DATA / PERFORMANCE



ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB



Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Perforated & Sound Attenuation cover

RAM 1111 MESH L RAM 1112 MESH C

RAM 1113 MESH H

RAM 1114 MESH T

ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

COMPONENTS

1 Panel 2 Main Carrier **3** Primary Cross Tee 4 Secondary Cross Tee

5 Wall Trim

**10** Wedge ●

11 Stabilizer ●

**13** U Bracket ●

**12** Plastic Spacer ●

14 Stabilizer Bracket

**16** Narrow Carrier

**17** Z Carrier

Optional

**18** TC Bracket 19 Torsion Spring Wire

**15** Suspension Bracket

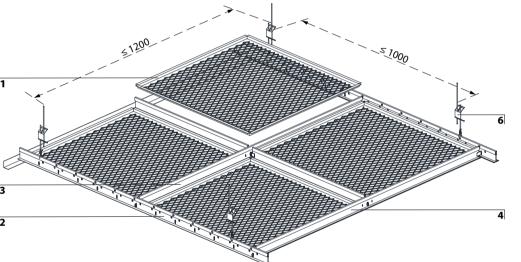
Custom sizes can be offered

8 Threaded Rod •

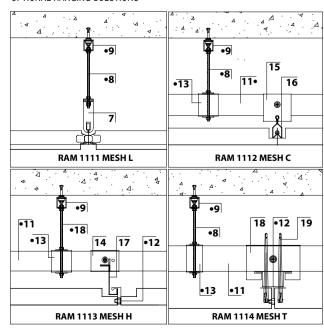
6 Double Adjustment Clip 7 Direct Suspension Bracket

9 Anti-Vibration Clip (TR) ●

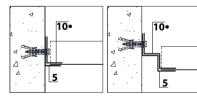
#### ISOMETRIC DETAIL



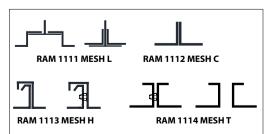
#### OPTIONAL HANGING SOLUTIONS

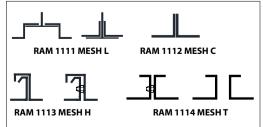


#### PERIMETER OPTIONS



#### PANEL JOINT DETAIL









An open & no limitation design ceiling. Can be custom manufactured to architect specifications. Ideal for complex geometric sizes & shapes. Fully demountable, complying with any accessibility requirements. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel (mm): 0.5 to 2.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

**WIDTH** (mm): ≤1200 **LENGTH** (mm): ≤4000

 $+ \ {\hbox{\it Custom sizes are available upon request}} \\$ 

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

**Acoustic Black Fleece** is non-flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLORS

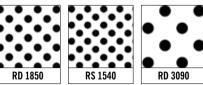


#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover

# X

#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### FIRE PERFORMANCE

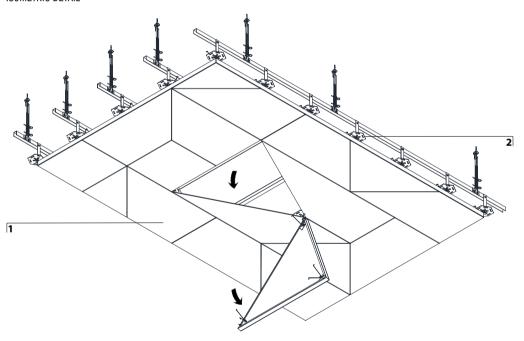
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 1211 BESPOKE

#### ISOMETRIC DETAIL



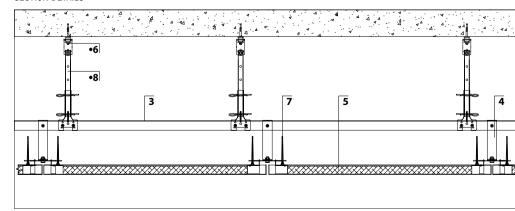
#### COMPONENTS

- 1 Panel
- 2 Node Plate
- 3 Stabilizer4 Hanging Bracket
- 5 Rockwool
- 6 Anti-Vibraion Clip (TR) •
- 7 Torsion Spring Wire8 Rigid Hanging System •
- 8 Rigid Hanging Syste

Optional

Custom sizes can be offered

#### SECTION DETAILS



#### PANEL JOINT DETAIL





WALL SYSTEMS **DEMOUNTABLE INTERNAL** METAL CLADDING

2010 series

INTERNAL WALL **COVERING** 

An ideal solution for internal wall covering. Effective impact protection for high traffic areas. High Acoustic performance. It's strong structure is suitable for integrated TV screens, sign boards & speakers. Progressive accessibility with easy access for services & maintenance without any access tool. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### MATERIAL

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum(mm): 1.0 to 3.0 Galvanized Steel (mm): 0.75 to 2.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

**HEIGHT** (mm): 300–750mm

#### LENGTH (mm):

RAM 2011, 2012, 2013:

≤3000 (Aluminum) ≤ 2000 (Galvanized Steel)

#### RAM 2014:

- ≤ 2000 (Galvanized Steel)
- + Custom sizes are available upon request

#### COATING

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### INSULATION

Acoustic Black Fleece is nonflammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLOR / FINISH

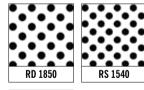


#### **SPECIAL FINISHES**



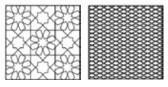
- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### **PERFORATION PATTERNS**





#### SURFACE PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



**ACOUSTICS** 

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00



#### ANTI BACTERIAL COATING

LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is

LR- 0.85-0.96 tested as per ASTM

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

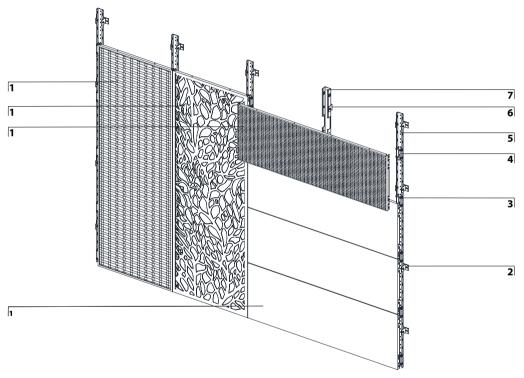
RAM 2011 SOLID PLAIN

**RAM 2012 PERFORATED** 

RAM 2013 EXPANDED METAL MESH

**RAM 2014** ARCHITECTURAL FINISH

#### ISOMETRIC DETAIL

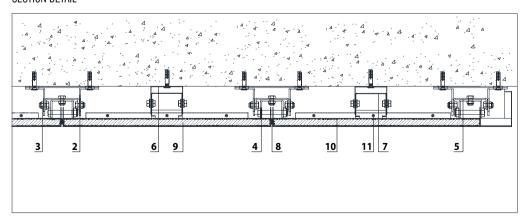


#### COMPONENTS

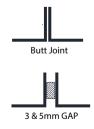
- 1 Panel
- 2 Omega Profile
- 3 Bolts & Nuts
- 4 Carrier Bracket
- **5** Adjustable C Channel **6** Reinforcement Bracket
- 7 Reinforcement Channel
- 8 Self-Adhesive Tape
- 9 Mineral Fiber Board
- **10** Backing Panel

11 Blind Rivet

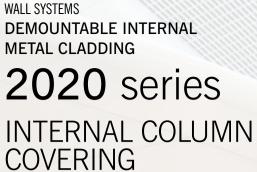
#### SECTION DETAIL



#### PANEL JOINT DETAIL



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An ideal solution for internal wall covering. Effective impact protection for high traffic areas. It's strong structure is suitable for integrated TV screens, sign boards & speakers. Progressive accessibility. Easy access for services & maintenance without any access tool. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### MATERIAL

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum(mm): 1.0 to 3.0 Galvanized Steel (mm): 0.75 to 2.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Perforated

#### SIZE

HEIGHT (mm): 300-750

#### LENGTH (mm):

RAM 2021, 2022, 2023: ≤3000 (Aluminum)

≤ 2000 (Galvanized Steel)

#### RAM 2024:

- ≤ 2000 (Galvanized Steel)
- + Custom sizes are available upon

#### **COATING**

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is nonflammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLOR / FINISH

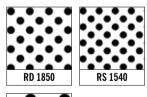


#### SPECIAL FINISHES



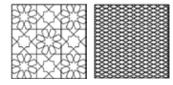
- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS





#### SURFACE PATTERNS



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00



#### ANTI BACTERIAL COATING

LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is

LR- 0.85-0.96 tested as per ASTM

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

COMPONENTS

2 Reinforcement Bracket 3 Reinforcement Channel

4 Adjustable C Channel

5 Omega Profile

6 Carrier Bracket

8 Self-Adhesive Tape 9 Mineral Fiber Board

**7** Bolts & Nuts

**10** Backing Panel

1 Panel

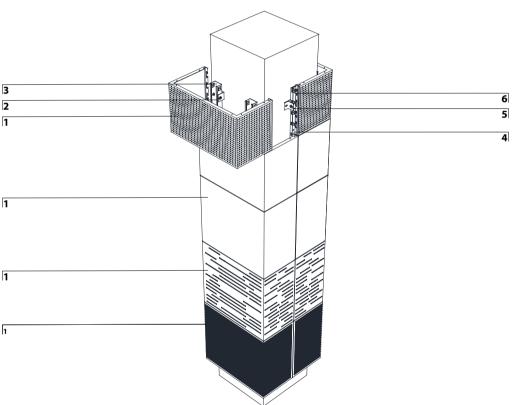
RAM 2021 SOLID PLAIN

**RAM 2022 PERFORATED** 

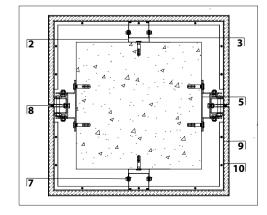
RAM 2023 EXPANDED METAL MESH

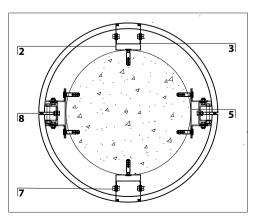
RAM 2024 ARCHITECTURAL FINISH

#### ISOMETRIC DETAIL



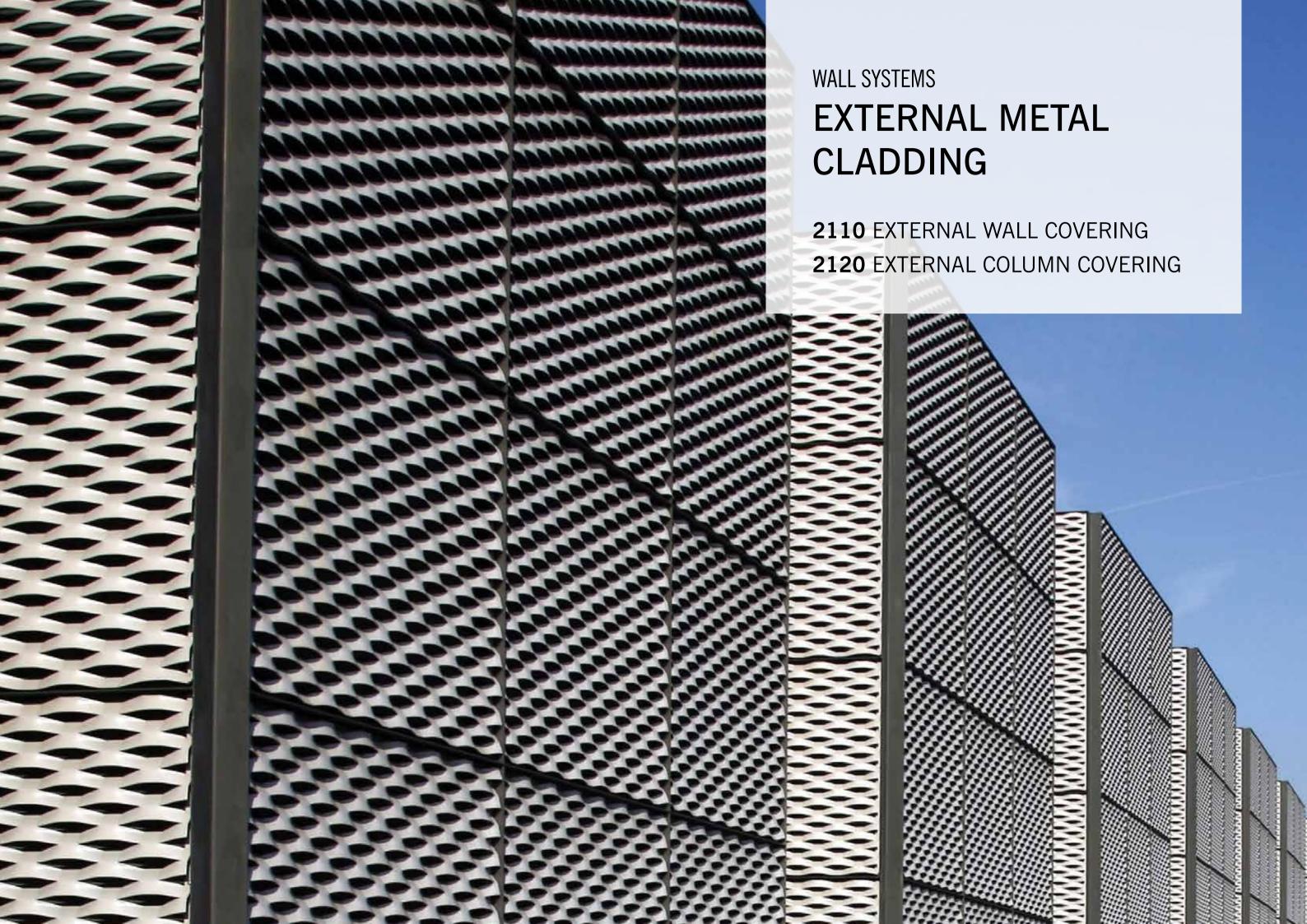
#### SECTION DETAILS





#### PANEL JOINTS DETAIL





WALL SYSTEMS
EXTERNAL METAL CLADDING

2110 series

EXTERNAL WALL COVERING



An ideal solution for external wall covering. Its strong structure is suitable for integrated TV screens, sign boards & speakers. Progressive accessibility. Offered in a wide range of designs, sizes, colors, perforations & finishes.

#### **FEATURES**

#### MATERIAL

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum (mm): 1.0-3.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Plain Perforated

#### SIZE

**HEIGHT** (mm): 300–1500 **LENGTH** (mm): up to 3000

+ Custom sizes are available upon request

#### COATING

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

 + High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **COLOR / FINISH**

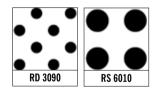


#### **SPECIAL FINISHES**

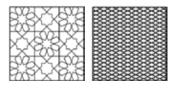


- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### **PERFORATION PATTERNS**



#### **SURFACE PATTERNS**



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### WIND RESISTANCE

Complies with CWCT Sec 1,12:2005 Wind Resistance—Serviceability & Safety, Test Report Ref: TBWIC/RH128

#### AIR PERMEABILITY

Complies with CWCT Sec 5:2005 Air Leakage, Test Report Ref: TBWIC/ RH128



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### WATER RESISTANCE

Complies with CWCT Sec 6,7:2005 Water Penetration – Static Method & Dynamic Aero Engine Test, Test Report Ref: TBWIC/RH128



# IGNITION PERFORMANCE FOR PLASTICS

Complies with ASTM D1929-16 Standard Test Method for Determining Ignition Temperature of Plastics, Test Report Ref: Intertek/103416370MID-001



#### FIRE PERFORMANCE

Complies with UNE-EN 13501-1:2007 +A1:2010 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests, Test Report Ref: APPLUS/18/16611-542 Part 2

Complies with NFPA 285-2012 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components, Test Report Ref: TBWIC/RK094 (Rev.01)

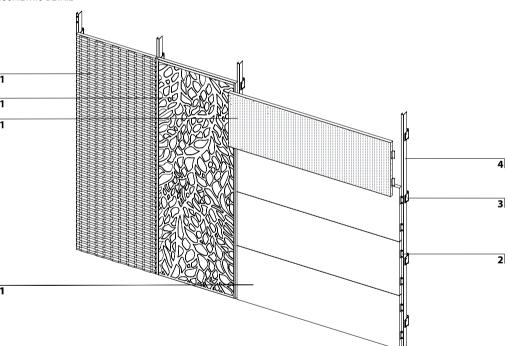
RAM 2111 SOLID PLAIN

**RAM 2112 PERFORATED** 

RAM 2113 EXPANDED METAL MESH

RAM 2114 ARCHITECTURAL FINISH

#### ISOMETRIC DETAIL

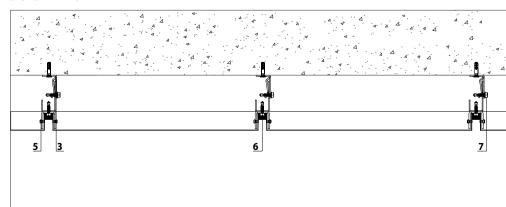


#### COMPONENTS

- 1 Panel
- 2 L Angle Profile
- Wall BracketJ Profile
- 5 Blind Rivet
- 6 Fire Rated Silicone Sealant
- 7 Self Drilling Screw

Custom sizes can be offered

#### SECTION DETAILS



#### PANEL JOINTS DETAILS



WALL SYSTEMS EXTERNAL METAL CLADDING

2120 series

**EXTERNAL COLUMN** COVERING



An ideal solution for external wall covering. Its strong structure is suitable for integrated TV screens, sign boards & speakers. Progressive accessibility. Offered in a wide range of designs, sizes, colors, perforations & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum (mm): 1.0-3.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Perforated

#### SIZE

**HEIGHT** (mm): 300-1500 LENGTH (mm): up to 3000

+ Custom sizes are available upon request

#### COATING

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **COLOR / FINISH**

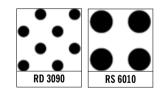


#### SPECIAL FINISHES

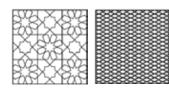


- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS



#### **SURFACE PATTERNS**



+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### WIND RESISTANCE

Complies with CWCT Sec 1,12:2005 Wind Resistance—Serviceability & Safety, Test Report Ref: TBWIC/RH128

#### AIR PERMEABILITY

Complies with CWCT Sec 5:2005 Air Leakage, Test Report Ref: TBWIC/ RH128



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### WATER RESISTANCE

Complies with CWCT Sec 6,7:2005 Water Penetration – Static Method & Dynamic Aero Engine Test, Test Report Ref: TBWIC/RH128



#### IGNITION PERFORMANCE FOR PLASTICS

Complies with ASTM D1929-16 Standard Test Method for Determining Ignition Temperature of Plastics, Test Report Ref: Intertek/103416370MID-



#### FIRE PERFORMANCE

Complies with UNE-EN 13501-1:2007 +A1:2010 Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests. Test Report Ref: APPLUS/18/16611-542 Part 2

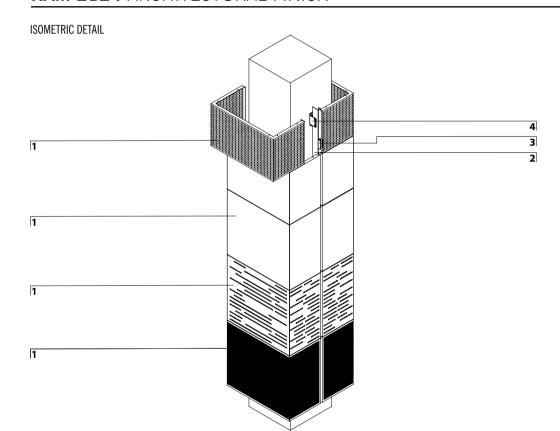
Complies with NFPA 285-2012 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components, Test Report Ref: TBWIC/RK094 (Rev.01)

## RAM 2121 SOLID PLAIN

**RAM 2122 PERFORATED** 

RAM 2123 EXPANDED METAL MESH

RAM 2124 ARCHITECTURAL FINISH

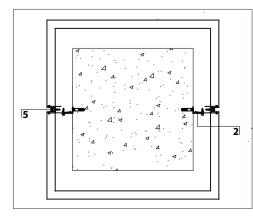


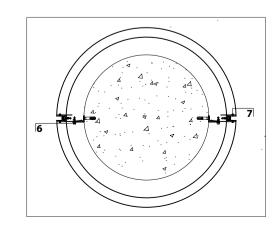
#### COMPONENTS

- 1 Panel
- **2** J Profile
- 3 L Angle Profile
- 4 Wall Bracket **5** Fire Rated Silicone Sealant
- **6** Self Drilling Screw
- 7 Blind Rivet

Custom sizes can be offered

#### SECTION DETAILS





PANEL JOINTS DETAIL





WALL SYSTEMS **BESPOKE WALL CLADDINGS** 2210 series **BESPOKE** WALL CLADDING

An open & no limitation design ceiling. Can be custom manufactured to architect specifications. Ideal for complex geometric sizes & shapes. Effective impact protection for high traffic areas. High Acoustic performance. It's strong structure is suitable for integrated TV screens, sign boards & speakers. Progressive accessibility with easy access for services & maintenance without any access tool. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### MATERIAL

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel (mm): 1.0 to 3.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Perforated

#### SIZE

**WIDTH** (mm): ≤2000

LENGTH (mm):

- ≤3000 (Aluminum)
- ≤2000 (Galvanized Steel)
- + Custom sizes are available upon

#### COATING

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is nonflammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLOR / FINISH

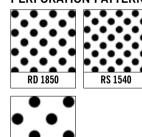


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### **PERFORATION PATTERNS**



RD 3090

+ See page 136 for all other pattern options

#### DATA / PERFORMANCE



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00



#### ANTI BACTERIAL COATING

LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is

LR- 0.85-0.96 tested as per ASTM

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE PERFORMANCE

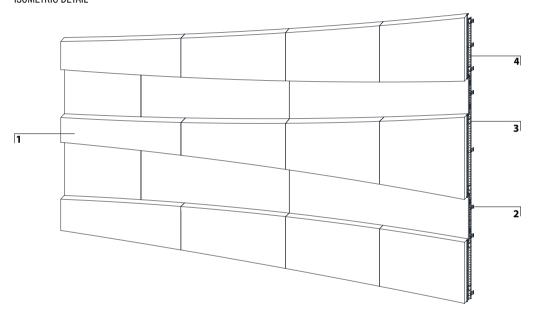
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 2211 BESPOKE WALL PANEL

#### ISOMETRIC DETAIL

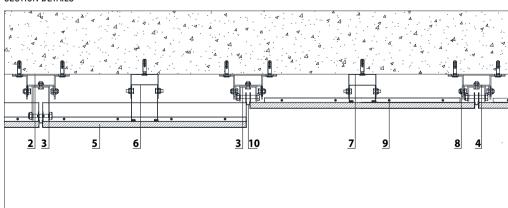


#### COMPONENTS

- 1 Panel
- 2 Omega Profile
- 3 Carrier Bracket 4 Adjustable C Channel
- 5 Mineral Fiber Board
- 6 Reinforcement Channel
- **7** Reinforcement Bracket
- 8 Bolts & Nuts
- 9 Blind Rivet
- **10** U Profile

Custom sizes can be offered

#### SECTION DETAILS



#### PANEL JOINTS DETAIL







For a modern look and an ideal solution for light weight canopies. Structurally rigid, high quality paint with UV resistance. A hollow profile that reduces sunlight transmission. For use in parking, ground, stadium, & other open areas. Offered in a wide range of sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum (mm): 0.5 to 0.6 Galvanized Steel (mm): 0.45 to 0.5

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain

#### SIZE

HEIGHT (mm): 300 WIDTH (mm): 100 LENGTH (mm): 3000 SPACING (mm): 50/100/150

+ Custom sizes are available upon request

#### COATING

Polyester Coating: ((5 $\mu$  (Back) + 20 $\mu$  (Face)) Polyester Powder Coating: (70 $\mu$  -80 $\mu$ )

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **COLORS**



#### SPECIAL FINISHES







- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### PERFORATION PATTERNS







 $+\ \mbox{See}$  page 136 for all other pattern options

#### DATA / PERFORMANCE



FIRE PERFORMANCE

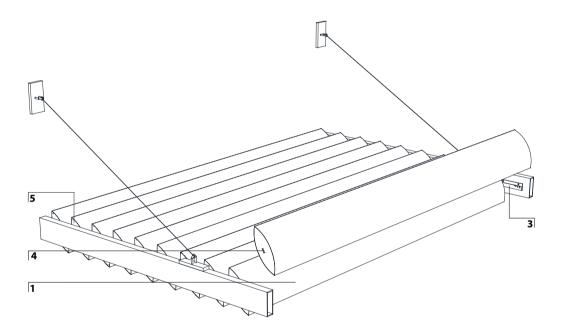
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### **RAM 3011 SHADE CONTROL**

#### ISOMETRIC DETAIL



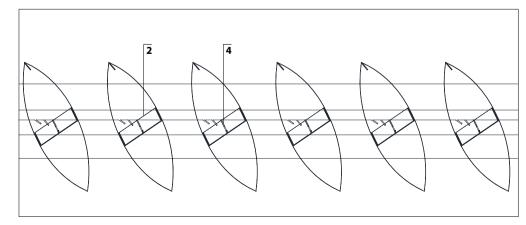
#### COMPONENTS

- **1** Baffle
- 2 U Channel
- **3** Carrier Profile
- 4 L Hook Profile5 End Cap

•

Custom sizes can be offered

#### SECTION DETAIL





ARCHITECTURAL ELEMENTS

# **5010** series

# METAL



Ideal for connecting ceilings with other building elements. Can be manufactured to integrate light fittings, AC grills, and other MEP services. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### MATERIAL

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel (mm): 0.6 to 3.0

+ Custom thickness are available upon request

#### SURFACE FINISH

Plain Perforated

#### SIZE

**LENGTH** (mm): ≤3000

WIDTH (mm): 300 to 1000

+ Custom sizes are available upon request

#### **COATING**

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ 

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-

flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### COLOR / FINISH

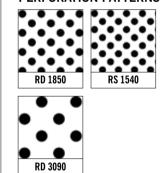


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### **PERFORATION PATTERNS**



+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00



#### ANTI BACTERIAL COATING

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM



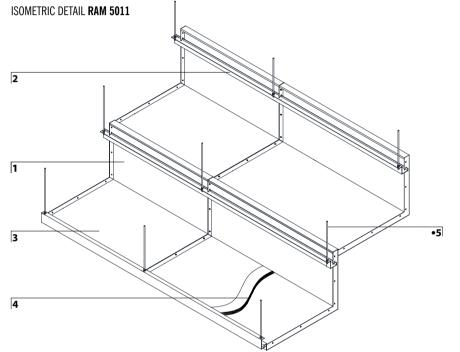
#### FIRE PERFORMANCE

Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

## RAM 5011 METAL BULKHEAD RAM 5012 CURVED METAL BULKHEAD



# PANEL JOINT DETAIL ISOMETRIC DETAIL RAM 5012 **Butt Joint** 3 & 5mm GAP

## COMPONENTS

#### **RAM 5011**

- 1 Panel **2** J Profile
- 3 Backing Panel
- 4 Fiber Board
- 5 Threaded Rod ●
- 5 Lower Ridge Hanger 6 Self-Adhesive Tape ●
  - 6 Upper Ridge Hanger ●

4 CT Bracket

**RAM 5012** 

1 Panel

7 Locking Clip

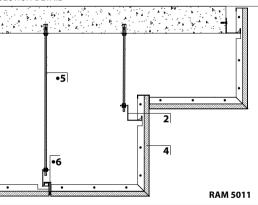
2 Torsion Spring Carrier

**3** Torsion Spring Wire

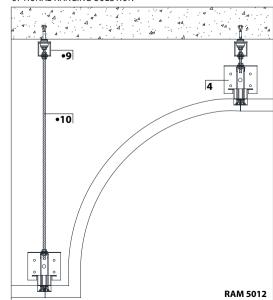
- 8 Anti-Vibration Clip (RH) ●
- 9 Anti-Vibration Clip (TR) ●
- 10 Threaded Rod •

#### Optional

#### SECTION DETAIL



#### OPTIONAL HANGING SOLUTION



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ARCHITECTURAL ELEMENTS

# 5110 series

# METAL COVE LIGHT

Ideal for integrating light fixtures. Can be custom manufactured to architect specifications in a variety of shapes & depths for optimal light reflection. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade.

#### **THICKNESS**

Aluminum or Galvanized Steel (mm): 0.5 to 1.00

+ Custom thickness are available upon request

#### **SURFACE FINISH**

Perforated

#### SIZE

**LENGTH** (mm): ≤3000 **WIDTH** (mm): ≤300

+ Custom sizes are available upon request

#### COATING

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ 

Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **INSULATION**

Acoustic Black Fleece is non-

flammable and meets the standard DIN 4102 / B1. Classification A1 according to EN 13501-1.

**Rockwool** slabs conforming to ASTM C612 and equivalent BS 3958-5 are provided for acoustic insulation.

#### **COLOR / FINISH**

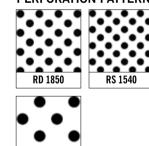


#### **SPECIAL FINISHES**



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### **PERFORATION PATTERNS**



RD 3090

+ See page 136 for all other pattern options

#### **DATA / PERFORMANCE**



#### ACOUSTICS

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece - NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00



#### ANTI BACTERIAL COATING

LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is

LR- 0.85-0.96 tested as per ASTM

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### FIRE PERFORMANCE

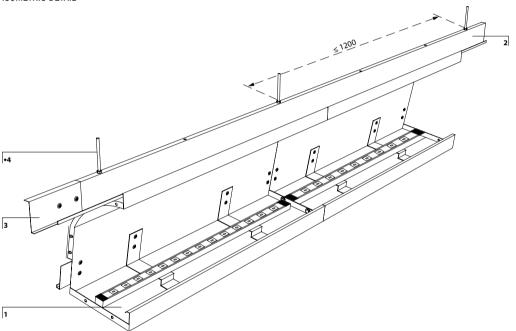
Surface Spread of flame Class 1 tested as per BS 476: Part 7: 1997

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

#### RAM 5111 METAL LIGHT REFLECTOR

#### ISOMETRIC DETAIL

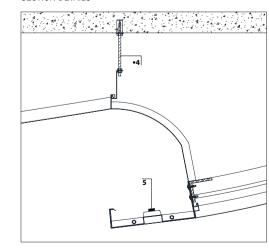


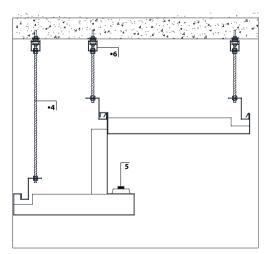
#### COMPONENTS

- 1 Panel
- **2** J Carrier Profile **3** C Splice ●
- 4 Threaded Rod ●
- **5** Lighting Fixture (By Other)
- 6 Anti-Vibration Clip (TR) ●

Custom sizes can be offered

#### SECTION DETAILS





#### PANEL JOINT DETAIL





ARCHITECTURAL ELEMENTS 5210 series METAL SKIRTING

Used for walls in a variety of finishes such as aluminum anodized, stainless steel, & powder coated aluminum. Can be manufactured in various heights & shapes. Offered in a wide range of designs, sizes, colors & finishes.

#### **FEATURES**

#### **MATERIAL**

Aluminum Alloy as per EN AW 3000 or 5000 series.

Zinc Plated Galvanized Steel G90 grade. Stainless Steel grade SS304 or SS316L

#### **THICKNESS**

Aluminum, Galvanized Steel or Stainless Steel (mm): 0.6 to 2.0

+ Custom thickness are available upon request

#### **SURFACE FINISH**

#### SIZE

**LENGTH** (mm): ≤3000

**WIDTH** (mm): ≤300 + Custom sizes are available upon

#### request **COATING**

Polyester Coating:  $((5\mu \text{ (Back)} + 20\mu \text{ (Face)})$ Polyester Powder Coating:  $(70\mu - 80\mu)$ 

+ High Performance Coatings like PESDF, PVDF and POLYAMIDE are available upon request.

#### **COLOR / FINISH**



#### SPECIAL FINISHES



- + See page 144 for additional colors & special finishes available
- + Special finishes can be provided in lamination, sublimation or coil coating process.

#### DATA / PERFORMANCE



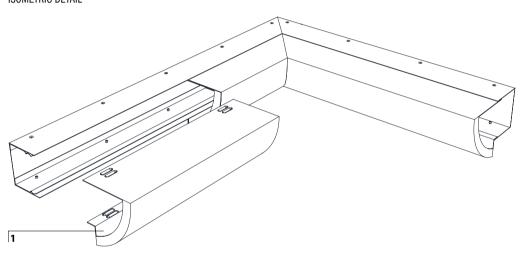
ANTI BACTERIAL COATING Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



LIGHT REFLECTANCE (LR) Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM

#### **RAM 5211** METAL SKIRTING

#### ISOMETRIC DETAIL

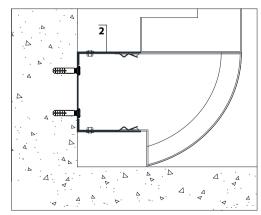


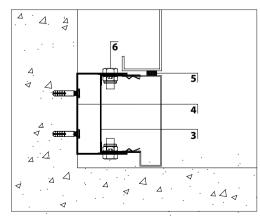
#### COMPONENTS

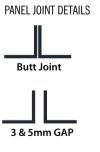
- 1 Panel
- 2 Carrier Profile
- **3** Skirting Spring Channel
- 4 Skirting Bracket
- **5** Self-Adhesive Tape ●
- 6 Bolts & Nuts

Custom sizes can be offered

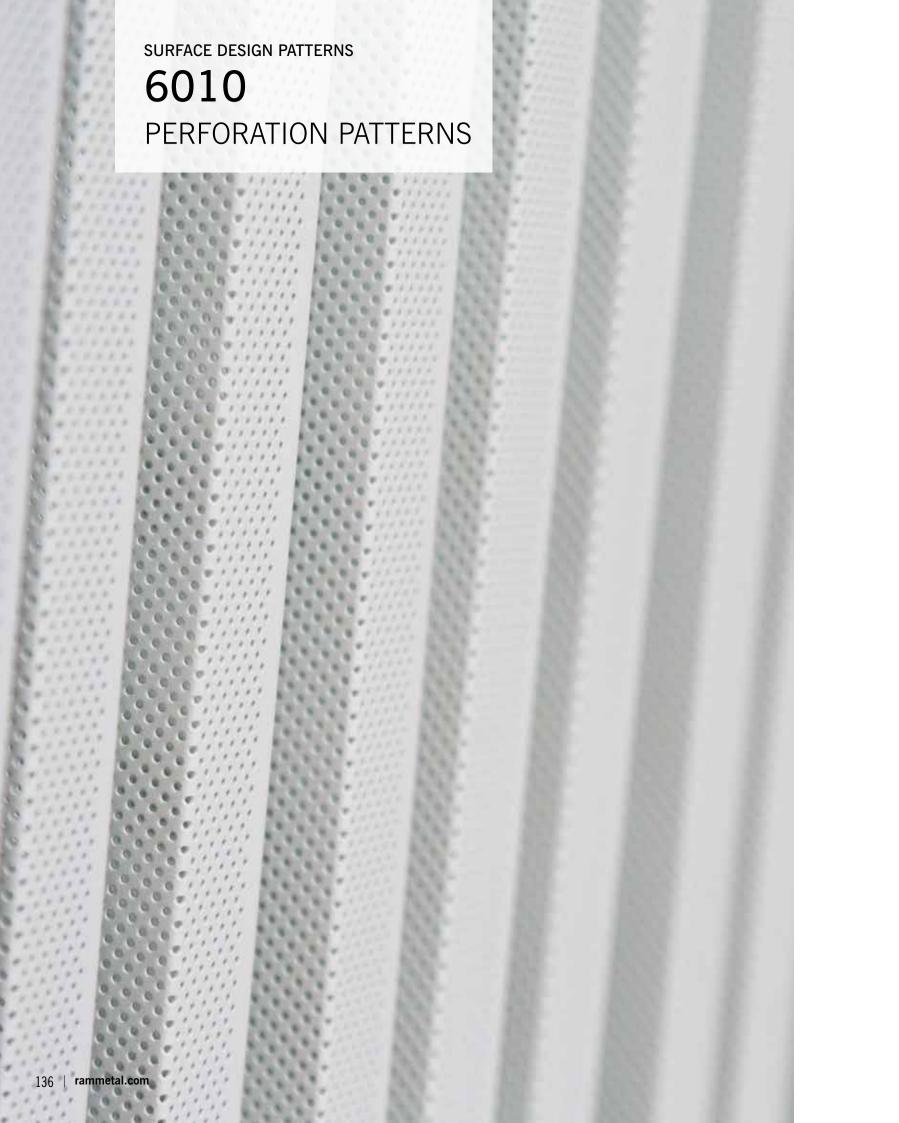
#### SECTION DETAILS

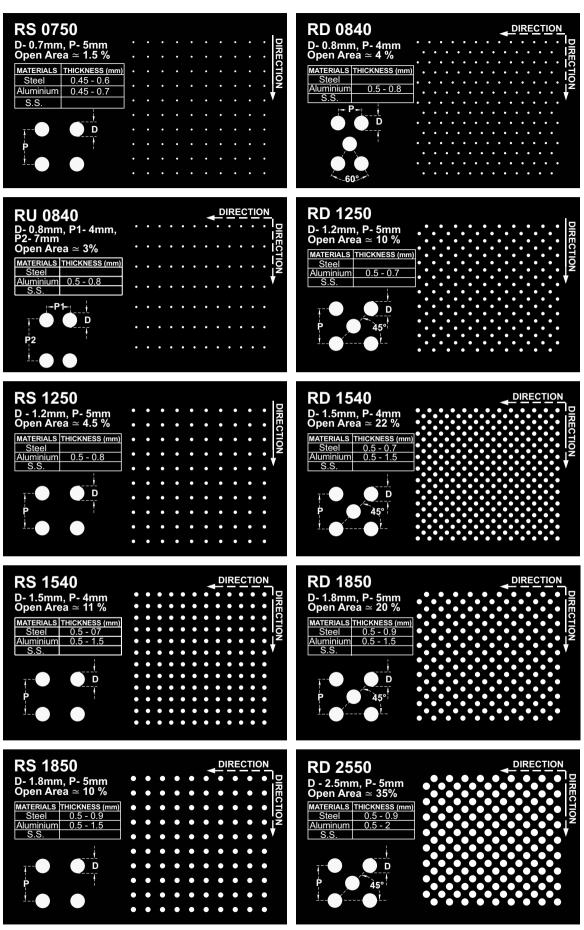




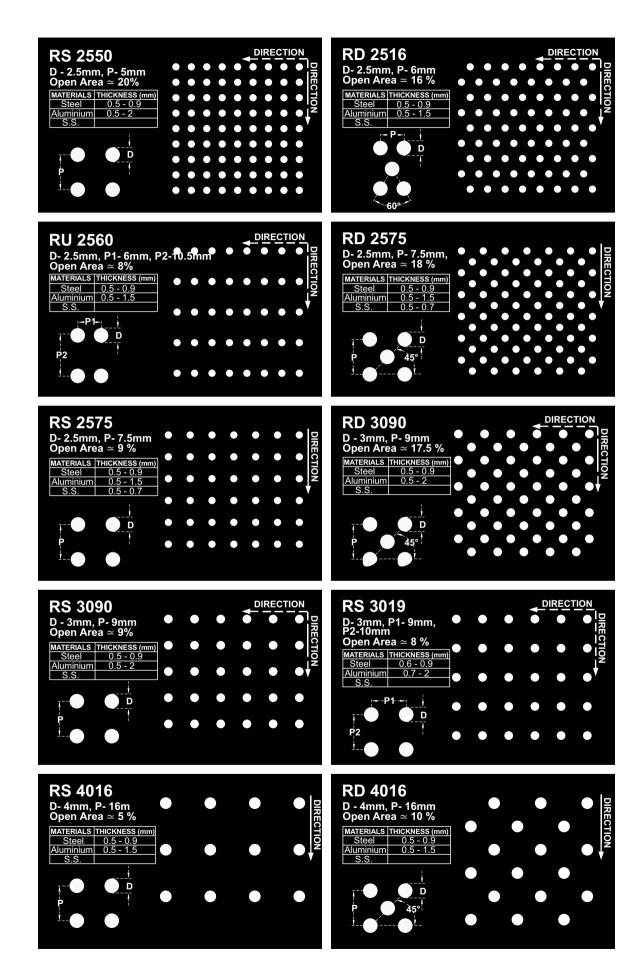


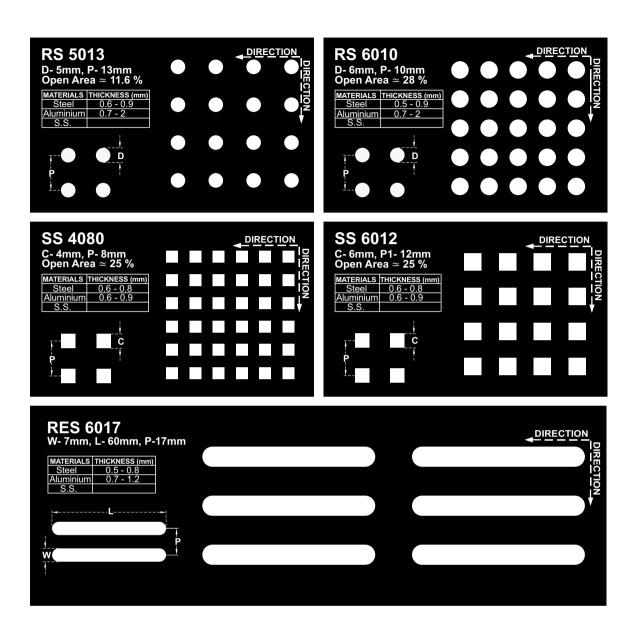




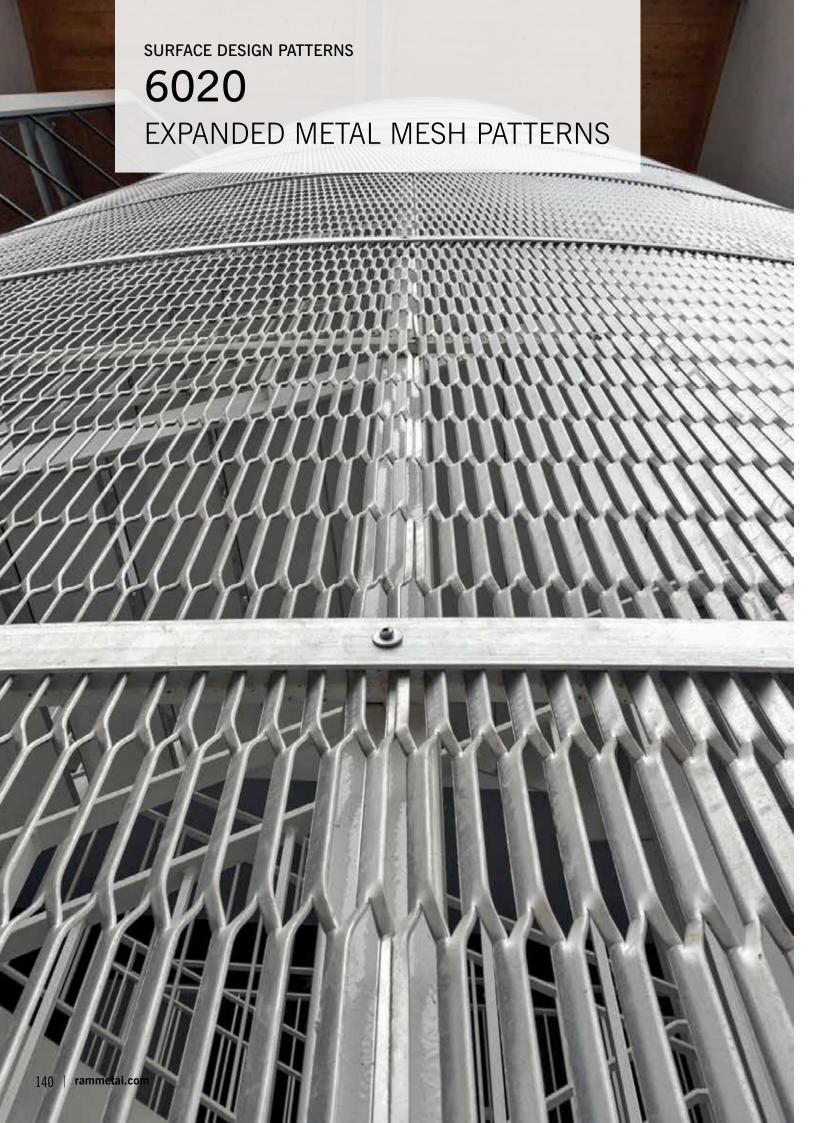


<sup>+</sup> We offer a wide range of custom designed perforation patterns. For any requirements & for more selection of Perforation Patterns, you can send your requirements to **contactus@rammetal.com** or do your own selection from **www.schiavetti.it** 

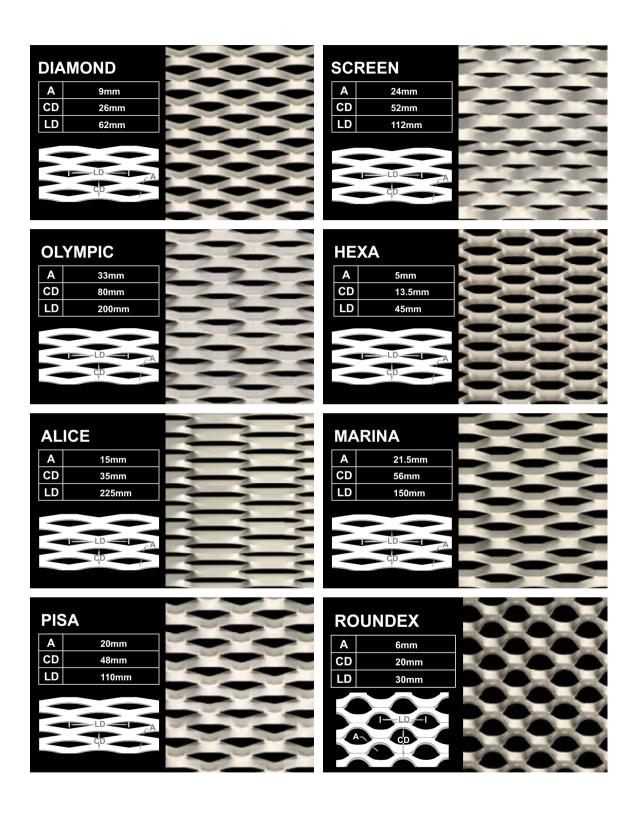




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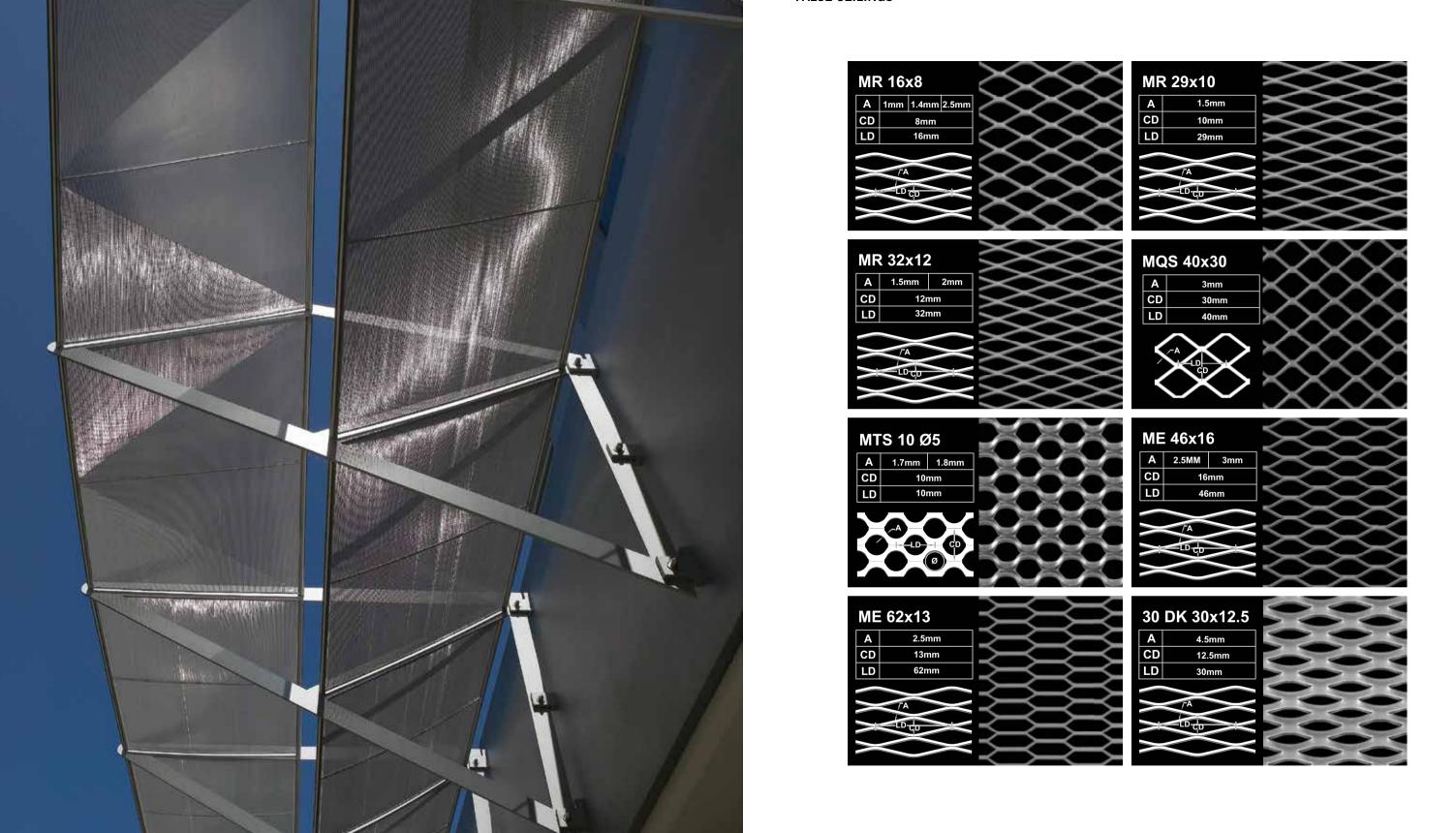


#### WALL CLADDINGS



<sup>+</sup> We offer a wide range of expanded metal mesh patterns. For any requirements & for more selection of Patterns, you can send your requirements to **contactus@rammetal.com** or do your own selection from **www.rgs.it** 





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<sup>+</sup> We offer a wide range of expanded metal mesh patterns. For any requirements & for more selection of Patterns, you can send your requirements to **contactus@rammetal.com** or do your own selection from **www.rgs.it** 

# RAL COLORS **RAL 1013 RAL 1015 RAL 1019**

RAL 5002	RAL 5007	RAL 5018	RAL 5024
RAL 6025	RAL 7003	RAL 7008	RAL 7021
RAL 7035	RAL 7045	RAL 8001	RAL 8008

**RAL 5001** 

RAL 9001	RAL 9002	RAL 9003	RAL 9005
RAL 9006	RAL 9007	RAL 9010	RAL 9016
RAL 9017	RAL 1035	RAL 1036	RAL 5025
RAL 5026	RAL 7048	RAL 9022	RAL 9023

This color card is to be used as an indication only.

For special color requirements and accurate assesssment, please contact us at contactus@rammetal.com



# ARCHITECTURAL FINISHES

### SPECIAL FINISHES

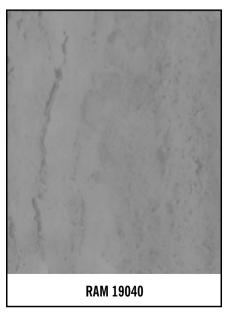












# STAINLESS STEEL FINISHES



## ANODIZED ALUMINUM FINISHES

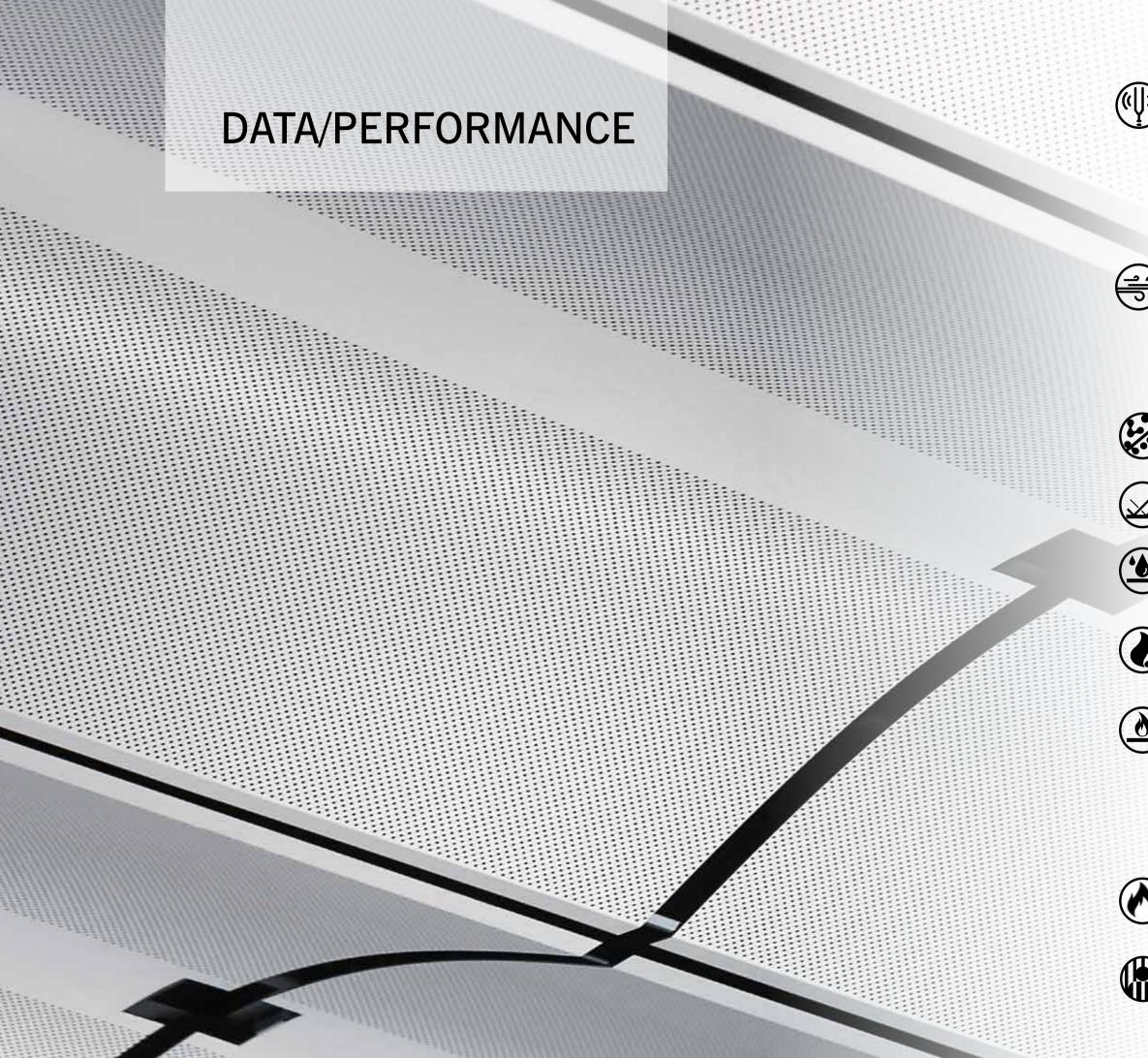


**BRUSH** 

This color card is to be used as an indication only.

**CHROME MATT** 

MIRROR





#### **ACOUSTICS**

Tested as per BS EN ISO 354: 2003 for sound absorption, noise reduction and sound attenuation.

Maximum NRC achieved with Acoustic Black fleece – NRC 0.75

Maximum NRC achieved with Acoustic Black Fleece and Rockwool Insulation- NRC 1.00

Tested as per ASTM E1414-11a for Airborne Sound Attenuation as per ISO 10848-2.

Maximum CAC can achieved up to — 48 dB

Perforated & Sound Attenuation cover



#### WIND RESISTANCE

Tested as per ASTM E330-02

Complies with CWCT Sec 1,12:2005

Wind Resistance—Serviceability & Safety, Test Report Ref: TBWIC/RH128

Air Permeability

Complies with CWCT Sec 5:2005 Air Leakage, Test Report Ref: TBWIC/RH128



#### **ANTI BACTERIAL COATING**

Tested as per JIS Z 2801: 2000, which inhibits the growth of bacteria on the applied surface.



#### LIGHT REFLECTANCE (LR)

Achieved by the metal ceiling is LR- 0.85-0.96 tested as per ASTM E 1477.



#### WATER RESISTANCE

Complies with CWCT Sec 6,7:2005 Water Penetration – Static Method & Dynamic Aero Engine Test, Test Report Ref: TBWIC/RH128



#### **IGNITION PERFORMANCE FOR PLASTICS**

Complies with ASTM D1929-16 Standard Test Method for Determining Ignition Temperature of Plastics, Test Report Ref: Intertek/103416370MID-001



#### **FIRE PERFORMANCE**

Surface Spread of flame Class 1 tested as per BS 476: Part 7:

"Non-Combustible" Material tested as per BS 476: Part4: 1970

Flame Spread and Smoke Development Index tested as per ASTM E84 (Class 1 or A)

Complies with NFPA 285-2012 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components, Test Report Ref: TBWIC/RK094 (Rev.01)



#### FIRE RESISTANCE

Fire Rated tested as per BS476 : Part 23: 1987 Fire tests on building materials and structures. Methods for determination of the contribution of components to the fire resistance of a structure



#### **SECURITY**

Complies with ASTM F2322 standards for physical assault on vertical fixed barries for detention and correctional facilities

