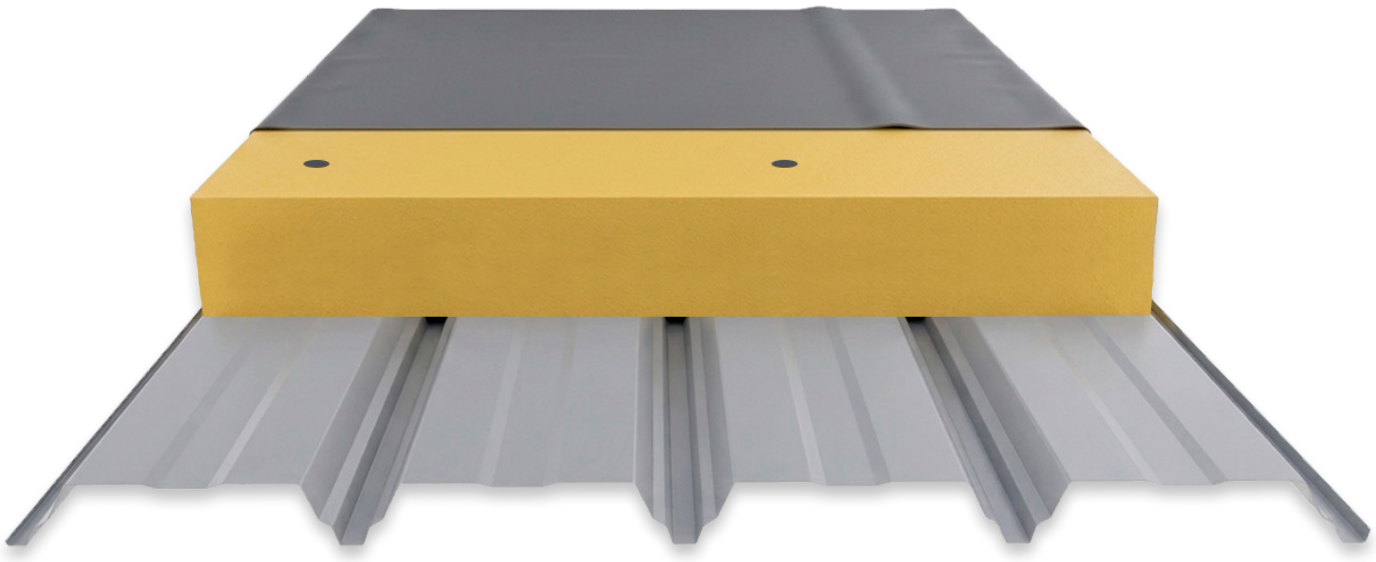
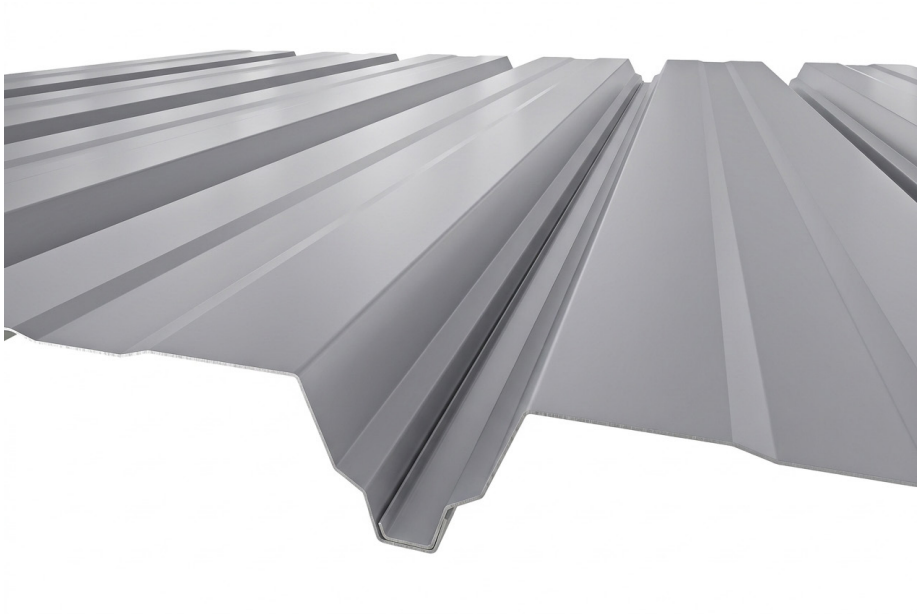
361metal

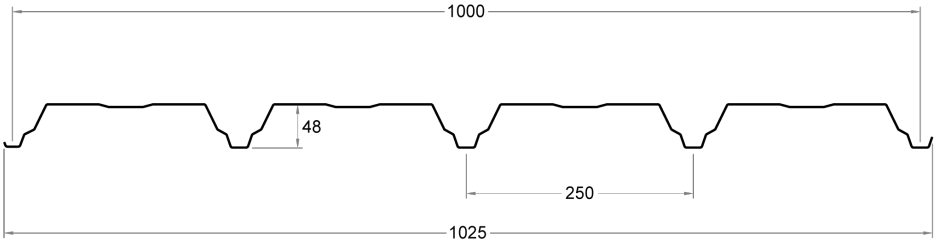
# A48DK.1000

TRAPEZOIDAL PROFILE
FOR DECK ROOFING





## Geometric Characteristics




## Designation

**A48DK.1000 Trapezoidal Sheet**

## Description

Cold-formed galvanised and pre-painted steel sheet.

## Application

Deck-type roof cladding for buildings.

## Dimensions

Effective width: 1000 mm
Overall width: 1025 mm
Thicknesses (mm): 0.7 to 1.2 mm
Lengths: 2000 to 14000 mm

## Composition

**Substrate**
Structural steel S220GD to S320GD.

**Metallic Coating**
Galvanised coating Z100 to Z275, or equivalent in AZ or ZM.

**Organic Coating**
Polyester coating 25 µm, or others such as PVDF, HDX or HPS.

## Regulations

**Steel sheet certifications**
CE marking in accordance with EN 10346 for metallic coatings and EN 10169 for organic coatings.

**A48DK.1000 profile certification**
CE marking in accordance with EN 14782.

## Reaction to Fire

Reaction to fire classification A1 in accordance with EN 13501 (Euroclasses).

## Profile technical data

| | | | Upper Flange in Compression | | Lower Flange in Compression | | | |
|---|---|---|---|---|---|---|---|---|
| Thickness (mm) | Weight (kg/m) | Weight ($kg/m^2$) | Moment Resistance (kNm/m) | Moment of Inertia ($cm^4/m$) | Moment Resistance (kNm/m) | Moment of Inertia ($cm^4/m$) | Web Crippling (kN/m) | Shear Resistance (kN/m) |
| 0.70 | 6.869 | 6.869 | 1.29 | 21.00 | 1.18 | 16.64 | 8.73 | 33.82 |
| 0.80 | 7.850 | 7.850 | 1.48 | 24.18 | 1.38 | 19.88 | 11.35 | 41.69 |
| 1.0 | 9.813 | 9.813 | 1.87 | 30.55 | 1.78 | 26.85 | 17.52 | 52.88 |
| 1.2 | 11.775 | 11.775 | 2.25 | 36.92 | 2.18 | 33.94 | 24.90 | 64.16 |

## Allowable load table

Maximum uniformly distributed load P (kN/m²) for a deflection f ≤ L/200.
The table data are based on calculations performed for S220GD and S320GD steel in accordance with EN 10346.

**SLS - Deflection limit:**
**L/200**

**D - Downward loads**
**A - Upward loads**

**Loads governed by**
**ULS** **SLS**

### S220GD - 2 Supports

| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 1.63 | 1.24 | 0.92 | 0.71 | 0.56 | 0.45 | 0.38 | 0.32 | 0.27 | 0.24 | 0.21 | 0.19 | 0.17 | 0.15 | 0.14 | 0.13 | 0.12 |
| | **A** | 1.66 | 1.30 | 1.02 | 0.75 | 0.56 | 0.43 | 0.33 | 0.26 | 0.20 | 0.16 | 0.12 | 0.10 | 0.07 | 0.05 | 0.04 | 0.03 | 0.02 |
| **0.80** | **D** | 1.90 | 1.48 | 1.10 | 0.84 | 0.67 | 0.54 | 0.45 | 0.38 | 0.32 | 0.28 | 0.25 | 0.22 | 0.20 | 0.18 | 0.17 | 0.16 | 0.15 |
| | **A** | 1.92 | 1.51 | 1.18 | 0.87 | 0.65 | 0.50 | 0.38 | 0.30 | 0.23 | 0.18 | 0.14 | 0.11 | 0.08 | 0.06 | 0.05 | 0.03 | 0.02 |
| **1.00** | **D** | 2.45 | 1.96 | 1.48 | 1.13 | 0.89 | 0.72 | 0.60 | 0.50 | 0.43 | 0.37 | 0.33 | 0.29 | 0.26 | 0.24 | 0.22 | 0.20 | 0.19 |
| | **A** | 2.41 | 1.89 | 1.49 | 1.09 | 0.82 | 0.63 | 0.48 | 0.38 | 0.29 | 0.23 | 0.18 | 0.14 | 0.11 | 0.08 | 0.06 | 0.04 | 0.02 |
| **1.20** | **D** | 3.01 | 2.40 | 1.86 | 1.43 | 1.12 | 0.91 | 0.75 | 0.63 | 0.54 | 0.47 | 0.41 | 0.36 | 0.33 | 0.30 | 0.27 | 0.25 | 0.24 |
| | **A** | 3.61 | 2.50 | 1.80 | 1.32 | 0.99 | 0.76 | 0.58 | 0.46 | 0.36 | 0.28 | 0.22 | 0.17 | 0.13 | 0.10 | 0.07 | 0.05 | 0.03 |

### S220GD - 3 Supports

| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 1.78 | 1.41 | 1.16 | 0.97 | 0.82 | 0.71 | 0.62 | 0.55 | 0.49 | 0.44 | 0.40 | 0.36 | 0.33 | 0.31 | 0.28 | 0.26 | 0.25 |
| | **A** | 1.12 | 0.91 | 0.76 | 0.64 | 0.55 | 0.47 | 0.41 | 0.35 | 0.31 | 0.27 | 0.24 | 0.22 | 0.19 | 0.17 | 0.14 | 0.11 | 0.09 |
| **0.80** | **D** | 2.04 | 1.63 | 1.33 | 1.11 | 0.94 | 0.81 | 0.71 | 0.63 | 0.56 | 0.50 | 0.46 | 0.42 | 0.38 | 0.35 | 0.33 | 0.30 | 0.28 |
| | **A** | 1.36 | 1.11 | 0.92 | 0.78 | 0.66 | 0.57 | 0.49 | 0.43 | 0.38 | 0.33 | 0.29 | 0.26 | 0.23 | 0.20 | 0.17 | 0.14 | 0.11 |
| **1.00** | **D** | 2.57 | 2.05 | 1.68 | 1.40 | 1.19 | 1.02 | 0.89 | 0.79 | 0.70 | 0.63 | 0.57 | 0.52 | 0.48 | 0.44 | 0.41 | 0.38 | 0.36 |
| | **A** | 1.89 | 1.53 | 1.27 | 1.06 | 0.90 | 0.77 | 0.67 | 0.58 | 0.51 | 0.44 | 0.39 | 0.34 | 0.30 | 0.26 | 0.23 | 0.19 | 0.16 |
| **1.20** | **D** | 3.10 | 2.47 | 2.02 | 1.69 | 1.43 | 1.24 | 1.08 | 0.95 | 0.85 | 0.76 | 0.69 | 0.63 | 0.58 | 0.53 | 0.50 | 0.46 | 0.43 |
| | **A** | 2.43 | 1.97 | 1.63 | 1.36 | 1.15 | 0.99 | 0.85 | 0.73 | 0.63 | 0.55 | 0.48 | 0.42 | 0.37 | 0.32 | 0.29 | 0.25 | 0.21 |

## S220GD - 4 Supports

| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 2.21 | 1.75 | 1.43 | 1.19 | 1.01 | 0.87 | 0.76 | 0.67 | 0.57 | 0.49 | 0.42 | 0.37 | 0.32 | 0.29 | 0.26 | 0.23 | 0.21 |
| | **A** | 1.35 | 1.11 | 0.93 | 0.79 | 0.67 | 0.58 | 0.51 | 0.43 | 0.34 | 0.27 | 0.22 | 0.18 | 0.14 | 0.12 | 0.09 | 0.07 | 0.06 |
| **0.80** | **D** | 2.54 | 2.02 | 1.65 | 1.37 | 1.16 | 1.00 | 0.87 | 0.77 | 0.66 | 0.56 | 0.48 | 0.42 | 0.37 | 0.33 | 0.30 | 0.27 | 0.25 |
| | **A** | 1.65 | 1.36 | 1.13 | 0.96 | 0.82 | 0.70 | 0.61 | 0.51 | 0.41 | 0.33 | 0.27 | 0.22 | 0.18 | 0.14 | 0.11 | 0.09 | 0.07 |
| **1.00** | **D** | 3.20 | 2.54 | 2.07 | 1.73 | 1.47 | 1.26 | 1.10 | 0.97 | 0.83 | 0.71 | 0.61 | 0.53 | 0.47 | 0.42 | 0.38 | 0.34 | 0.31 |
| | **A** | 2.30 | 1.88 | 1.56 | 1.31 | 1.12 | 0.96 | 0.84 | 0.70 | 0.56 | 0.45 | 0.37 | 0.30 | 0.24 | 0.20 | 0.16 | 0.13 | 0.10 |
| **1.20** | **D** | 3.85 | 3.06 | 2.50 | 2.08 | 1.77 | 1.52 | 1.32 | 1.17 | 1.01 | 0.86 | 0.74 | 0.64 | 0.57 | 0.51 | 0.45 | 0.41 | 0.37 |
| | **A** | 2.97 | 2.42 | 2.00 | 1.68 | 1.43 | 1.23 | 1.07 | 0.89 | 0.71 | 0.58 | 0.47 | 0.38 | 0.31 | 0.26 | 0.21 | 0.17 | 0.13 |

## S320GD - 2 Supports

| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 1.63 | 1.17 | 0.87 | 0.67 | 0.53 | 0.43 | 0.36 | 0.30 | 0.26 | 0.23 | 0.20 | 0.18 | 0.16 | 0.15 | 0.14 | 0.13 | 0.12 |
| | **A** | 2.05 | 1.42 | 1.02 | 0.75 | 0.56 | 0.43 | 0.33 | 0.26 | 0.20 | 0.16 | 0.12 | 0.10 | 0.07 | 0.05 | 0.04 | 0.03 | 0.02 |
| **0.80** | **D** | 1.95 | 1.39 | 1.03 | 0.80 | 0.63 | 0.51 | 0.42 | 0.36 | 0.31 | 0.27 | 0.24 | 0.21 | 0.19 | 0.18 | 0.16 | 0.15 | 0.14 |
| | **A** | 2.37 | 1.64 | 1.18 | 0.87 | 0.65 | 0.50 | 0.38 | 0.30 | 0.23 | 0.18 | 0.14 | 0.11 | 0.08 | 0.06 | 0.05 | 0.03 | 0.02 |
| **1.00** | **D** | 2.61 | 1.86 | 1.38 | 1.06 | 0.84 | 0.68 | 0.56 | 0.47 | 0.41 | 0.35 | 0.31 | 0.28 | 0.25 | 0.23 | 0.21 | 0.20 | 0.18 |
| | **A** | 2.99 | 2.07 | 1.49 | 1.09 | 0.82 | 0.63 | 0.48 | 0.38 | 0.29 | 0.23 | 0.18 | 0.14 | 0.11 | 0.08 | 0.06 | 0.04 | 0.02 |
| **1.20** | **D** | 3.30 | 2.35 | 1.75 | 1.34 | 1.06 | 0.85 | 0.71 | 0.59 | 0.51 | 0.44 | 0.39 | 0.35 | 0.31 | 0.29 | 0.26 | 0.24 | 0.23 |
| | **A** | 3.61 | 2.50 | 1.80 | 1.32 | 0.99 | 0.76 | 0.58 | 0.46 | 0.36 | 0.28 | 0.22 | 0.17 | 0.13 | 0.10 | 0.07 | 0.05 | 0.03 |

## S320GD - 3 Supports

| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 2.56 | 2.03 | 1.66 | 1.38 | 1.17 | 1.00 | 0.87 | 0.77 | 0.68 | 0.61 | 0.53 | 0.46 | 0.40 | 0.35 | 0.32 | 0.28 | 0.26 |
| | **A** | 1.49 | 1.23 | 1.03 | 0.88 | 0.75 | 0.65 | 0.57 | 0.50 | 0.43 | 0.35 | 0.28 | 0.23 | 0.19 | 0.16 | 0.13 | 0.10 | 0.08 |
| **0.80** | **D** | 2.94 | 2.34 | 1.91 | 1.59 | 1.34 | 1.15 | 1.00 | 0.88 | 0.78 | 0.70 | 0.61 | 0.53 | 0.46 | 0.41 | 0.36 | 0.33 | 0.30 |
| | **A** | 1.83 | 1.51 | 1.26 | 1.07 | 0.91 | 0.79 | 0.69 | 0.61 | 0.52 | 0.42 | 0.34 | 0.28 | 0.23 | 0.19 | 0.15 | 0.13 | 0.10 |
| **1.00** | **D** | 3.70 | 2.94 | 2.40 | 2.00 | 1.69 | 1.45 | 1.26 | 1.11 | 0.99 | 0.88 | 0.77 | 0.67 | 0.58 | 0.52 | 0.46 | 0.41 | 0.38 |
| | **A** | 2.55 | 2.08 | 1.74 | 1.47 | 1.25 | 1.08 | 0.94 | 0.82 | 0.70 | 0.57 | 0.46 | 0.38 | 0.31 | 0.26 | 0.21 | 0.17 | 0.14 |
| **1.20** | **D** | 4.46 | 3.55 | 2.89 | 2.41 | 2.04 | 1.75 | 1.52 | 1.34 | 1.19 | 1.07 | 0.93 | 0.80 | 0.70 | 0.62 | 0.56 | 0.50 | 0.45 |
| | **A** | 3.30 | 2.69 | 2.24 | 1.88 | 1.61 | 1.38 | 1.20 | 1.05 | 0.89 | 0.72 | 0.59 | 0.49 | 0.40 | 0.33 | 0.27 | 0.23 | 0.19 |

## S320GD - 4 Supports

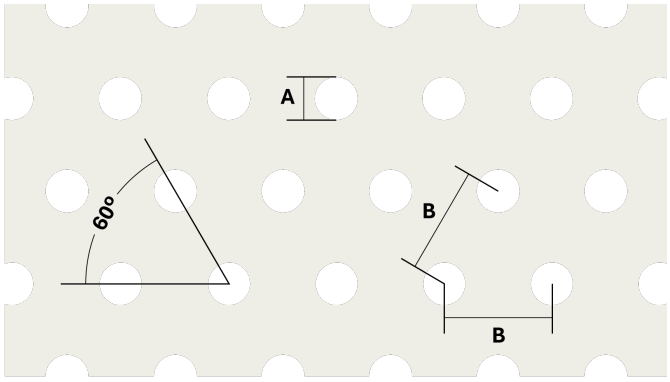
| Thickness (mm) | | Span length (m) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2.00** | **2.25** | **2.50** | **2.75** | **3.00** | **3.25** | **3.50** | **3.75** | **4.00** | **4.25** | **4.50** | **4.75** | **5.00** | **5.25** | **5.50** | **5.75** | **6.00** |
| **0.70** | **D** | 3.18 | 2.53 | 2.06 | 1.63 | 1.27 | 1.01 | 0.82 | 0.68 | 0.57 | 0.49 | 0.42 | 0.37 | 0.32 | 0.29 | 0.26 | 0.23 | 0.21 |
| | **A** | 1.80 | 1.49 | 1.25 | 1.07 | 0.84 | 0.64 | 0.50 | 0.40 | 0.32 | 0.25 | 0.20 | 0.16 | 0.13 | 0.11 | 0.08 | 0.07 | 0.05 |
| **0.80** | **D** | 3.66 | 2.91 | 2.37 | 1.88 | 1.46 | 1.17 | 0.95 | 0.78 | 0.66 | 0.56 | 0.48 | 0.42 | 0.37 | 0.33 | 0.30 | 0.27 | 0.25 |
| | **A** | 2.21 | 1.83 | 1.53 | 1.30 | 1.00 | 0.77 | 0.60 | 0.48 | 0.38 | 0.31 | 0.25 | 0.20 | 0.16 | 0.13 | 0.10 | 0.08 | 0.06 |
| **1.00** | **D** | 4.61 | 3.66 | 2.98 | 2.37 | 1.85 | 1.47 | 1.20 | 0.99 | 0.83 | 0.71 | 0.61 | 0.53 | 0.47 | 0.42 | 0.38 | 0.34 | 0.31 |
| | **A** | 3.09 | 2.54 | 2.12 | 1.78 | 1.35 | 1.04 | 0.82 | 0.65 | 0.52 | 0.42 | 0.34 | 0.27 | 0.22 | 0.18 | 0.14 | 0.11 | 0.09 |
| **1.20** | **D** | 5.55 | 4.41 | 3.59 | 2.87 | 2.23 | 1.78 | 1.45 | 1.20 | 1.01 | 0.86 | 0.74 | 0.64 | 0.57 | 0.51 | 0.45 | 0.41 | 0.37 |
| | **A** | 4.01 | 3.29 | 2.74 | 2.26 | 1.72 | 1.33 | 1.04 | 0.82 | 0.66 | 0.53 | 0.43 | 0.35 | 0.28 | 0.23 | 0.19 | 0.15 | 0.12 |

## Perforated sheet option

361 Metal can supply this profile with uniform perforation in two patterns:

**Type R3/T5** — 3 mm diameter holes at 5 mm centres, in a 60º triangular pattern, giving an open area of approximately 33%.
**Type R5/T8** — 5 mm diameter holes at 8 mm centres, in a 60º triangular pattern, giving an open area of approximately 35%.

Other perforation patterns available on request.




### Legend

| Pattern | Hole diameter **(A)** | Distance between centres **(B)** |
|---|---|---|
| **R3/T5** | 3 mm | 5 mm |
| **R5/T8** | 5 mm | 8 mm |

## Selection of Available Coatings

To support the choice of coating and ensure maximum product durability, we offer a range of coatings selectable according to the installation environment.

### Available coatings

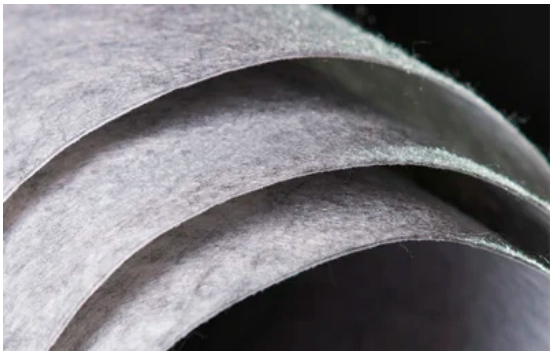
| Coatings | Exterior Environment | | | | | | | Interior Environment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Clean Rural | Urban/ Industrial | Marine | | | Resistance | | Low Humidity | Medium Humidity | High Humidity | Interior Corrosion |
| | | | 3 - 20 km | 1 - 3 km | 0 - 1 km | Corrosion | UV | | | | |
| **PE 25µm** | ✓ | * | * | × | × | * | * | ✓ | ✓ | Ai3 | CPI3 |
| **PE 35µm HDS 35µm** | ✓ | ✓ | ✓ | * | × | RC4 | RUV4 | ✓ | ✓ | Ai3 | CPI4 |
| **PVDF 35µm** | ✓ | ✓ | ✓ | * | × | RC4 | RUV4 | ✓ | ✓ | Ai3 | CPI4 |
| **PUPA 55µm HDX 55µm** | ✓ | ✓ | ✓ | ✓ | * | RC5 | RUV4 | ✓ | ✓ | Ai3 | CPI4 |
| **HPS 200µm** | ✓ | ✓ | ✓ | ✓ | ✓ | RC5+ | RUV4 | ✓ | ✓ | Ai5 | CPI5 |

**✓ Suitable Coating** **× Unsuitable Coating** *** Upon Enquiry**

*Indicative table only. Each construction site and project has its own specific requirements, so we recommend contacting our team directly for a tailored assessment.*

## Condensation Control

The A48 is available with an optional factory-applied anti-condensation interior coating. The material retains condensed moisture instead of letting it drip. As the air warms up, the accumulated water gradually returns to the atmosphere by evaporation. It is a durable material, withstands fresh water jet washing and maintains its performance in aggressive environments.



Non-combustible.
Rain noise reduction up to 6 dB.
Water absorption capacity up to 1.5 kg/m$^2$.

## Quality and Safety

Steel and coatings free of SVHC, in compliance with the European REACH regulation.

*Information subject to change without prior notice. Check the latest version at www.361metal.com. Informative data only; technical validation is required for each application.*