



## Metal materials

An alternative fire resistance option

Fire classification non-combustible M0 and A1 according to European standards.

### ADVANTAGES OF ALUMINIUM MATERIALS

- Lightweight
- Great variety of finishes achieved by lacquering and anodising
- Wide selection of shapes: folding and bending
- Perforation options

### ADVANTAGES OF STAINLESS STEEL MATERIALS

- Excellent corrosion resistance in harsh environments
- Low expansion
- Great variety of colours and finishes
- Wide range of surface finishes: brushed, hammered, gloss..
- Large selection of shapes: folding, bending, and perforation possible in certain cases

### ADVANTAGES OF STEEL MATERIALS

- Great variety of colours
- Wide selection of shapes: folding, bending and perforation

## TECHNICAL DATA FOR METAL MATERIALS

Technical data			Materials		
	Unit		Aluminium & aluminium alloy	Stainless Steel	Galvanized steel
Sheet thickness in standard usage	[mm]	e	1 to 4 mm	0.8 to 2.5 mm*	1 to 2.5 mm
Areal density for a 1mm thick panel	[kg/m <sup>2</sup> ]	d	2.7	7.8	7.8
Standard panel widths before processing	[mm]	l	1000 1250 1500	1000 1200	1000 1250 1500
STANDARDS			EN 485-2 - (pre-lacquered)	EN 10088	EN 10142 (Sendzimir Z275) EN 10169-1 (pre-lacquered)
Minimum interior folding radius	[mm]	r <sub>i</sub>	2 x thickness	0.5 x thickness	0.5 x thickness
Module of elasticity	[N/mm <sup>2</sup> ]	E	69000	203000	210000
Coef. Linear expansion	[mm/m/°C]	α	0.024	0.010	0.012

\* Depending on the finish

## PLEASE USE CAUTION WHEN CONNECTING DIFFERENT METALS (ELECTROLYTIC CORROSION)

Corrosion is defined as a chemical reaction whereby a material is altered by oxidation. Corrosion occurs when metal is exposed to harsh environments, usually the combination of moisture and oxygen, but increased UV exposure or certain forms of wear can also represent a threat. The material converts from its metal state into salts (oxides, sulphides, carbonates) and returns to its natural state: iron and steel rust or the formation of green verdigris on copper and its alloys (bronze, brass).

COMPATIBILITY OF VARIOUS MATERIALS IN AMBIENT ATMOSPHERE						
Materials with large surface area	Materials with a large surface area					
		Carbon steel/cast steel	Zn/galvanized steel	Al	Cu	Stainless steel
	Carbon steel/cast steel	+	-	-	+	+
	Zn/galvanized steel	+	+	+	o	+
	Al	o/-	o	+	o/-	+
	Cu	-	-	-	+	+
Stainless steel	-	-	o/-	+	+	

Key: + good o inconclusive - bad

\* Although using these metals together has little impact on the materials, combinations are not recommended due to the strong impact of corrosion on the less noble metal.