



Alupur[®] (Aluminized Type 2)

Aluminium-coated steel for corrosion protection and passive fire resistance

Protecting structures in the event of a fire is a major challenge for the oil and gas and petrochemical industries. To ensure the safety of workers and installations, superior fire-resistant products are required. One of the best solutions is Alupur[®] from ArcelorMittal.

Alupur[®] combines the strength and fire resistance of steel with the corrosion resistance of pure aluminium. By using Alupur[®] jacketing, operators can lower maintenance costs and increase safety.

Alupur[®] corresponds to the Type 2 aluminized steel defined in the ASTM A463/A463M T2-300 standard.

Product

Alupur[®] has a pure aluminium coating on both sides of the steel substrate. The guaranteed coating mass is 305 grams/m² or a 50 µm coating on both sides. Other coating thicknesses are available (see table on reverse).

Superior passive fire resistance

With its doubled-sided pure aluminium coating, Alupur[®] is the perfect steel solution for fire resistance. The combination of high quality steel and aluminium offers excellent resistance at temperatures up to 1,100°C.

At the same time, the aluminium coating helps to maintain the strength of the steel at high temperatures. In the case of a high temperature fire, the aluminium coating diffuses into the steel to form a hard iron-aluminium alloy layer which reinforces the substrate.

Protection is maintained throughout the development of a fire. Up to 450°C there is no change in the steel substrate and absolutely no damage to the coating. Alupur[®] maintains its protection, even after two hours at 1,100°C.

Alupur[®] ensures the safety of your people and structures, even in the harshest conditions.



Advantages

- Superior passive fire resistance
- Very good corrosion resistance
- Thermal and light reflectivity
- Up to 2 mm pre-coated steel

Unique properties

In comparison to most other metallic-coated steels, Alupur[®] offers good thermal and light reflectivity to minimise the effects of heat radiation. Even after accelerated ageing, Alupur[®] maintains more than 70% of its reflectivity.

Alupur[®] has superior corrosion resistance in all environments (urban, industrial, and marine) thanks to the hard and passivating layer of aluminium oxide which forms on the surface of the steel. The effect extends to uncoated cut edges, ensuring long-term protection. In marine environments, Alupur[®] exhibits much better resistance to chloride cracking than the commonly used stainless steel grade (AISI Type 304).

Corrosion resistance is maintained in the presence of heat, and the different aggressive combustion by-products found in oil and gas installations.

Applications

Alupur[®] can be used as jacketing or cladding material in refineries, petrochemical facilities, gas power plants, oil storage facilities, liquid natural gas terminals, grain silos, and pipe cladding.

In certain conditions, Alupur[®] is suitable for food contact applications and meets standards such as EC Regulation 1935/2004 (Europe) and NF A 36-712-2 (France).

Contact us to find out more.



Brand correspondence

	NFA 36-345	ASTM A463 / A463M	Old brand names
C+A	AL...C	CS/TypeB T2	QC

Alupur® is compliant with ASTM A463M T2-300. It is recommended by CINI for insulated pipe jacketing where there is combined risk of corrosion and fire.

Coating mass

Alupur®	Coating weight double sided (g/m ²)	Coating thickness (µm per side)
AL195	195	35
AL230	230	40
AL305	305	50

Dimensions (mm)

Thickness	Min width	C+A, C320+A Max width
0.50 ≤ th < 1.00	650	1060
1.00 ≤ th ≤ 2.00		1130

Other sizes available on request

Mechanical properties

	Direction	Thickness (mm)	Re (MPa)	Rm (MPa)	A80 (%)
C+A (CS Type B)	L	0.5 - 2.5	205 - 345	270 - 500	≥ 20

Available dimensions

Thickness (mm)	Average weight (kg/m ²)
0.50	3.40
0.60	4.20
0.70	5.15
0.80	5.98
0.90	6.80
1.00	7.62
1.25	9.66
1.50	11.70
2.00	15.70

Alupur® can be supplied oiled and/or with a chemical surface treatment, or with an Easyfilm® thin organic coating.



Services

Coil processing

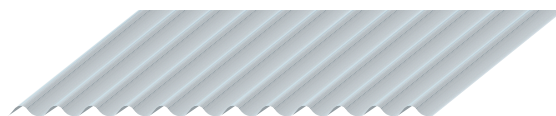
Alupur® can be supplied in mini-coils of 500, 1000 & 2000 kg. Other shapes are available including cut-to-length sheets.

Forming and profiling

Alupur® can be bent, corrugated, folded, and roll formed. The following table shows the minimum recommended inside bending radius.

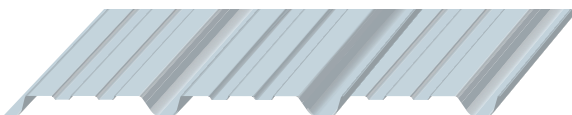
Thickness	Bending radius
Up to 0.80 mm	1 x thickness
0.80 to 1.25 mm	2 x thickness
1.25 to 1.50 mm	3 x thickness
1.50 to 2.00 mm	4 x thickness

Corrugated sheets



Available in sheet thicknesses: 0.50; 0.60; 0.70; 0.80; 0.90; and 1.00 mm
Other thicknesses available on request

Trapezoidal sheets



Available in sheet thicknesses: 0.50; 0.60; 0.70; and 0.80 mm
Other thicknesses available on request

Painting

Alupur® can be supplied with a PVDF topcoat.

Stock solutions

Our stocks in Europe, the middle East and South-East Asia typically include a large selection of dimensions for quick delivery. Please contact your ArcelorMittal Projects representative to check availability.

Credits

Images: Shutterstock.com - nostalg6ie / CoolKengzz
Tubosider SA - Tom D'Haenens, Privé SA, Philippe Vandenameele

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