

Aluform
S Y S T E M E

PRODUCTS
Anti-condensation
coating

flexible building.
sustainable thinking.



Profiled aluminium
Panels with
GRAFO-THERM coating
for roof and facade
structures



In certain room climates, roofs or profiled aluminium panels without thermal insulation (ventilated roofs) will be subject to the hazard of condensation depending on outside temperatures. This condensation can be attributed to the fact that the warmer and water vapourcontaining air of the building interior makes contact with the profiled panels and cools down on their cold surface. The conditions found to occur with ventilated roofs may also be encountered on the facades of buildings.

Disadvantages caused by condensate:

- Corrosion of the steel supporting structure and fouling of or formation of mould on the timber supporting structure
- Damages to materials stored and machines
- Damages in agriculture when buildings are used for grain storage and animal housing
- Penetration of moisture into insulating materials
- Annoyance to passengers in covered areas, e.g. platform roofs in railway stations.

Aluform AT Anti-condensation coating - Provides an effective protection against dripping condensate

Aluform AT elements are profiled aluminium panels coated with GRAFO-THERM on one side (Table 1).

Aluform AT will absorb condensation water and prevent it from dripping. Profiled aluminium panels coated with GRAFO-THERM will dry at a faster rate than untreated panels.

Surfaces coated with Aluform AT are given a bright texture similar to a plaster finish.

Tab. 1: Condensation water absorption rate to saturation depending on type of coat

Description	Water absorption capacity g/m ²	
	after 8 hrs	at saturation
AT 06	370	500
AT 09	504	675

Tab. 2: Versions of colour coats

Outside	Inside
colour coatings: Polyester or PVdF	grey GRAFO THERM
without colours: stucco-mill finish or smooth-mill finish	grey GRAFO-THERM

Aluform AT is more than just a protection against condensation water.

■ Fire protection:

building material class A 2 according to DIN 4102

■ Noise protection, noise absorption:

Profiled panels with AT coating can absorb noise at a rate of 5 - 30% depending on the thickness of the coat and the frequency of the sound waves encountered and can thus reduce the noise level in the building inside.

■ Noise insulation:

The AT coating will provide a deadening effect in case of hail-storm, heavy rainfall or wind. Loss factor, $d_{\text{komb}} \approx 0,02$

■ Thermal protection:

AT coating will give a heat-insulating effect that reduces the condensation rate; thermal conductance 0.085 W/mK.

■ Corrosion protection:

Indirect effect by preventing condensate from dripping on the supporting structure.

Use of Aluform AT panels

Aluform panels can be universally used for roofs and walls which are subject to condensation according to the time of the day, e.g.

- sheds without thermal insulation
- double-layer ventilated thermal roofs as weather protection
- agricultural buildings
- indoor swimming pools, sports halls
- platform roofs
- canopies
- grandstands
- garages

Aluform AT will not replace neither an adequate thermal insulation layer nor an appropriate ventilation of the bottom or back sides.

Installation of Aluform AT panels

Great care should be taken not to damage the coated aluminium panels during installation. Especially, the panels should not be in contact with the purlins when pushing them in place. Possible damages to the coat may be repaired by means of a brush. A drying time of approx. 8 hours must be allowed when dried in the open air (at about 20 °C). Make sure to install the panels in the specified direction.

Storage of Aluform AT panels

The Aluform AT panels should be stored at a roofed place.

Range of Aluform AT panels offered

Trapezoidal and sinusoidal panels are offered in two GRAFO-THERM standard coats (Table 1). The available lengths are from 2m to 20m.

The colours of the coats can be seen in Table 2. In addition to the standard program, other dimensions, coats or colours can be supplied on request.

Connecting elements, sealing materials and bent flashings are available for the installation of the panels. Flashings that are exposed to the inside and outside climate of a building are possible to be coated with GRAFO-THERM on one side.

Ordering/description of Aluform AT profiled panels

The following must be stated for ordering:

- Required quantity, type of profile and dimensions of profiled aluminium panels
- Fitting position of profiled panels (positive = P, negative = N) and side to be coated with GRAFOTHERM

- Overlapping lengths for cross joints (Instruction of Installation, Info No. 713)
- Position for longitudinal joints and eaves side depending on direction of installation according to Figure 1 for roofs and Figure 2 for walls. The maximum possible dimension 'a' of the non-coated end faces is 300 mm. The visible side should be protected against spray dust by protective film.
- Desired texture and paint coat of outside surface of profiled panels (Table 2)
- Type of GRAFO-THERM coat for inside surface (Table 1)
- Required fitting elements; description of the area to be coated in the case of bent flashings (sketch)

Ordering example:	Description:
Trapezoidal aluminium profile 45/150 Metal thickness t = 0.7 mm AT (anti-condensation) coating Positive side: Outside, stucco-mill finish Negative side: Inside, grey AT 06	Aluform 45/150 - 0.7 - AT 06 outside, stucco-mill finish, P inside, AT grey, N

Figure 1: GRAFO-THERM coating of Aluform trapezoidal profile 45/150, negative side. Installed as roof profile. The joint and eaves areas are not coated.

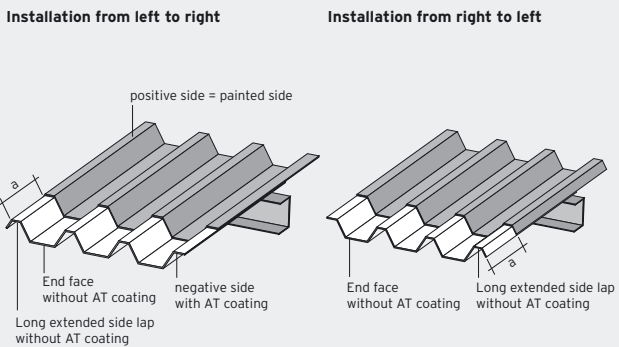


Figure 2: GRAFO-THERM coating of Aluform trapezoidal profile 45/150, positive side. Installed as wall profile. The joint and plinth areas are not coated.

