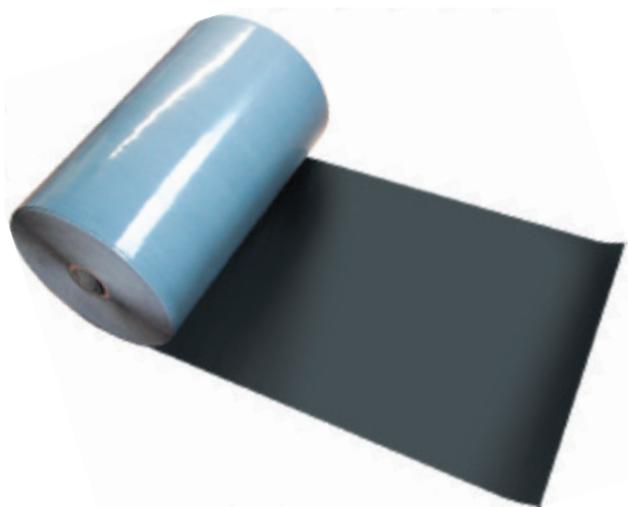


MASC ACOUSTIC FOIL (Self adhesive separation layer)



Optimal Sound-insulation for roofs and facades made of metal.

ATL/AKOS is a sound-insulation material for the deadening of metallic roof covers and front elements. It is particularly suitable for adhesion on metallic or painted surfaces and can be used for all current non-ferrous metals.

ATL/AKOS consist of minerally filled polyolefin (constituents: chalks, polymers, process oils) with acrylate self-adhesive coating on the underside.

ATL/AKOS provides for a silencing of loudness according to Prof. Zwicker, DIN 45631 (muffling of noises up to 8 dB).

Noise prevention is the purpose of all procedures in noise control. The wellbeing of humans and animals can be constantly affected by uncontrolled noise levels.

Procedures in noise control lay their emphasis mainly in protection against ambient noise. Causes can be noise from external issues such as traffic, factories and alike, to external elements of buildings where rain or hail falling on roofs and even water swooshing through pipes can cause some to experience disturbed rest or concentration.

In Germany the Federal Control of pollution Act and similar regulations manage the consequences of noise pollution.

In 2002 the ambient noise guideline was passed for the whole of Europe. All countries are obligated to make this guide line a national law.

Beneath the legal requirements, technical guidelines for noise control are existing and they try to represent the best available technology. In Germany you have;

- DIN 4109 (noise insulation in engineering): describes the minimum requirements to noise insulation
- VDI- guide- line 4100 defines 3 steps of noise insulation for living spaces.

Technically you distinguish noise prevention as:

Active noise prevention: Is taking action at the origin of noises: e.g. insulating industrial estates, setting up no-fly zones, building sound prevention walls.

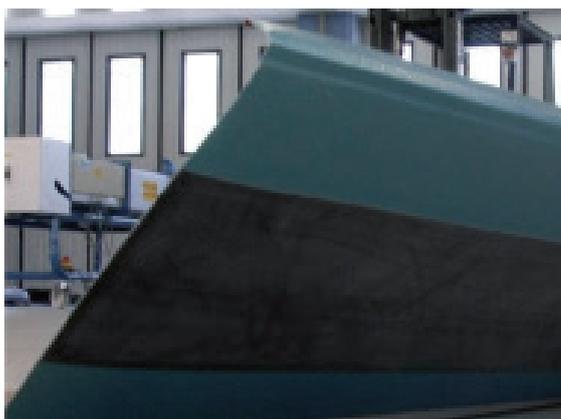
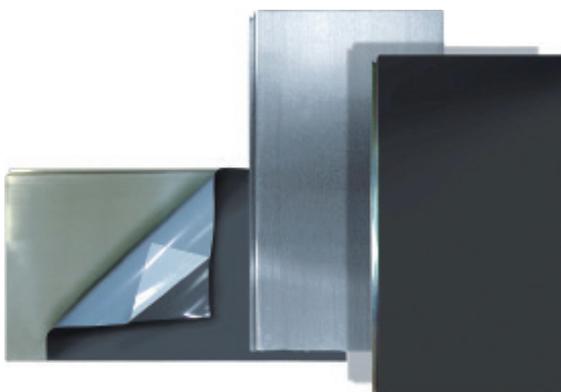
Passive noise prevention: Is taking action where the emission takes place: e.g. sound glazing or for metal roofing and cladding using ATL directly underneath the metal. ATL isn't actually a sound insulation but a sound absorbing material.

Sound insulation constitutes the interference of sound emission from airborne sound and solid-borne sound into adjoining rooms by acoustic reflexion of the emitting sound at several points of discontinuity.

Technical Characteristics of ATL/AKOS	
Overall thickness	approx 0.5mm
Mass per unit area	approx 0.8kg per sqm
Length per roll	100 running meters
Standard widths	300mm, 150mm
Special widths	on request
Fire classification (glued)	E DIN 4102
Thermal conductivity	DIN 52612 0.26w/m ² k
Temperature stability	from -30° C to +95° C
Low temp resistance	ok 24hrs at -30° C
Resistance to heat	ok 16hrs at 95° C
Tensile strength longitudinal	DIN 53504 > 4.8 N/sqmm
Tensile strength transversal	DIN53504 > 4.5 N/sqmm
Elongation at break longitudinal	DIN53504 >70%
Elongation at break transversal	DIN53504 >200%
Fluid resistance to	motor oil, cleaning agents, petrol, bitumen

Processing instruction: The surface to be glued must be clean, dry, grease-free, non-corroded and with an adhesive property.

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Sound absorption can be understood as interference of sound emission by absorbing air borne sound. Through absorbing the sound the acoustic energy is converted to inaudible waves of vibration energy and consequently the reflexion of sound is diminished.

ATL guarantees a sound absorption up to 8 dB (according to Prof. Zwicker, DIN 45631) ATL offers better quality of life, silence under your roof, peace and quiet, peace of mind.

Sound-insulation for metal roofs

Metal is an important material in construction and nowadays frequently used for all kinds of roofing and façades. The advantages of a metal roof using zinc, copper, aluminium or stainless steel are the many different designs and complex roof forms that can be created, combined with the huge future cost saving on low to no maintenance over long periods of time.

Whilst there are colour limitations to the naturally patinated metals, Aluminium and Coated Steel colour pallets are virtually unlimited. Metal is a fantastic material to use as it's cost effective, maintenance free and aesthetically pleasing.

But there is one essential thing: Metal roofs must be carefully thought out and planned according to the end use of the building; otherwise issues can occur such as drumming noise from rain and hail stones.

With property worth constantly rising, space is at a premium and loft/attic conversions are more popular than ever. With this rise in popularity, external sound prevention appears to be more and more important especially for user of the building. The same issues extend to hospitals, schools and offices where concentration is important and noise will affect the occupants ability to effectively concentrate. There are certain rules that must be adhered to e.g. German sound insulation standard DIN 4109-1.

Sound in general is part of our daily life, but to reduce "stressful noise" pollution during work, rehabilitation, education or relaxation time, buildings should be equipped to deal with such issues. Retro fitting sound prevention to a metal roof is near on impossible as the sound should be caught at the point of contact, therefore prevention should be directly underneath the metal.

It would be a lot cheaper and easier to avoid noise development right from the start: Before fitting! A good insulation itself can already diminish noise development.

BUT: It doesn't inhibit noises such as expansion creaks, drumming rain and hail.

A metal roof needs a wide free moving space. Fixing our ATL/AKOS self-adhesive acoustic layer is the best solution for sound reduction.

ATL/AKOS

- Allows silent expansion of the metal
- Reduces noise caused by wind uplift
- Absorbs any wind driven vibration of the metal
- Reduces drumming noise associated with rain and hail stones