

# Taborsky

Trapezoidal profile, corrugated profile, roof tile

**DR!PSTOP – Anti-condensation coating**



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## General

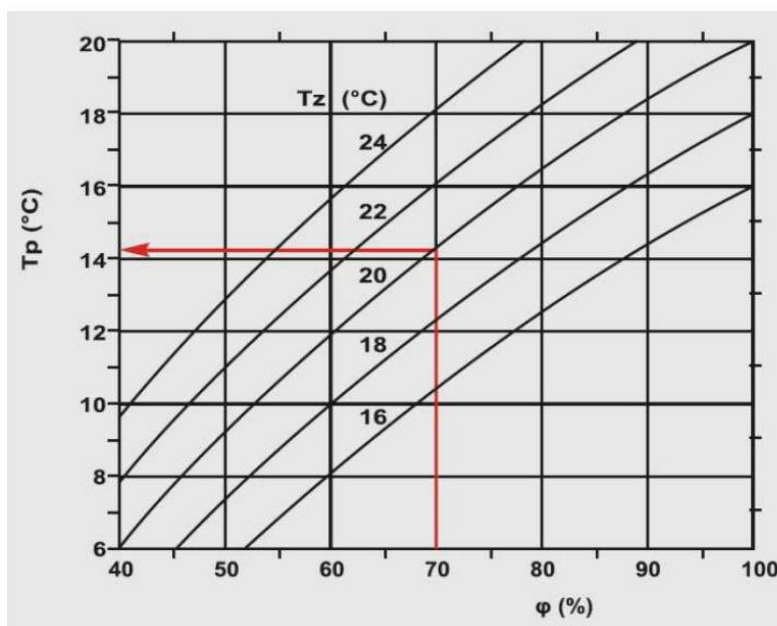
DR!PSTOP is a special membrane which solves condensation problems in non-insulated roofs. When the warm interior air comes into contact with the cold roof profiles, it suddenly cools, decreases in volume, and the relative humidity increases. If it falls below the dew point, then water precipitates. This is also called condensation. Droplets of water form on the underside of the roof during this condensation process.

The DR!PSTOP anti-condensation coating prevents this by absorbing up to 900 g/m<sup>2</sup> of condensation.

The DR!PSTOP membranes is made from braided PES fibres which absorb moisture and thus prevent condensation from dripping. At temperatures above the dew point, the condensation is emitted into the air again as moisture, and this can then be carried away through appropriate ventilation of the roof.

## Bases for condensation

Graphic 1 shows that the dew point temperature at a room temperature of 20 °C and a relative humidity of 70% is 14.2 °C. This means that condensation forms if the temperature falls below 14.2 °C.



Tp - Dew point temperature in °C

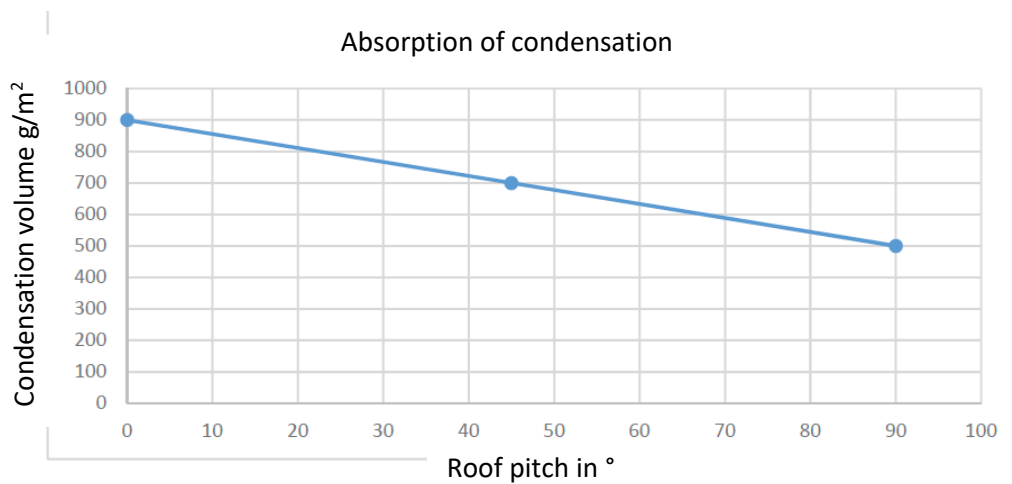
Tz - Air temperature in °C

φ - Humidity in %

Graphic 1: Dew point depending on air temperature and humidity

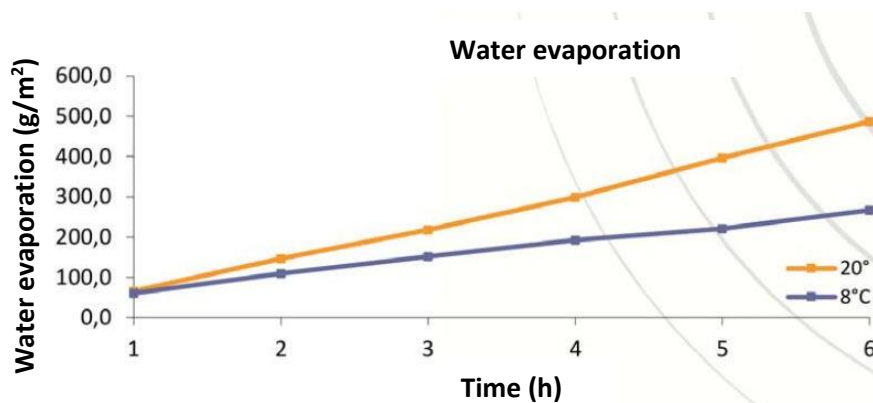
## Absorption and evaporation of condensation

DR!PSTOP's job is to absorb and store the condensation. The stored liquid is steadily emitted into the air as soon as the temperature is above the dew point again and is carried away through ventilation. The amount of condensation absorbed is dependent on the roof pitch. Graphic 2 illustrates the ability of the DR!PSTOP 95 g coating to absorb condensation, depending on the roof pitch in degrees.



Graphic 2: Ability to absorb condensation depending on roof pitch

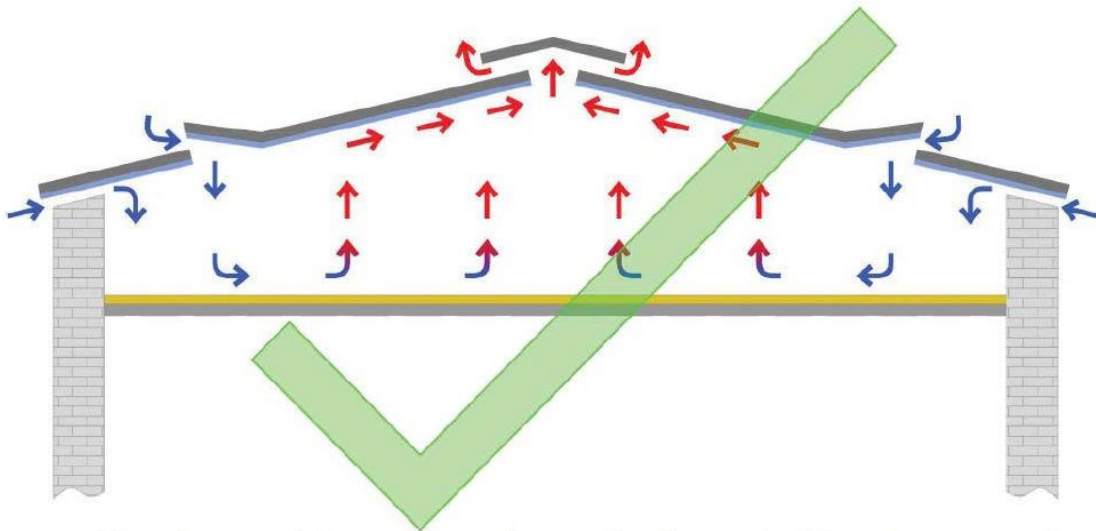
Graphic 3 shows the duration of evaporation of the condensation absorbed depending on the temperature.



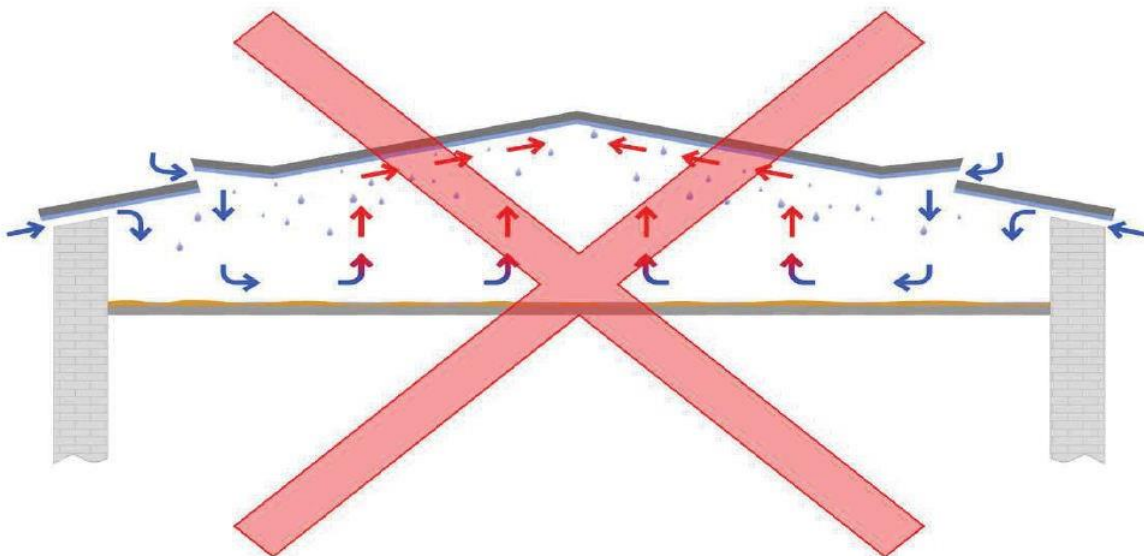
Graphic 3: Water evaporation depending on temperature and time

## Ventilation

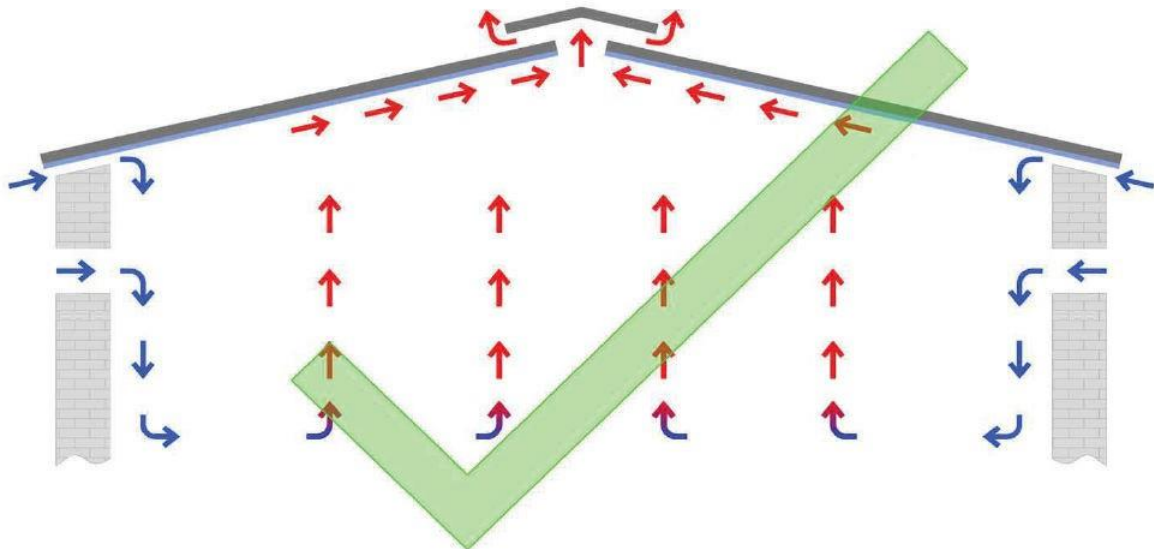
Sufficient air supply and ventilation must be ensured so that the DR!PSTOP membrane can optimally perform the process described above. The fleece coating must dry fully between the individual cycles, which is only possible through adequate ventilation of the space. This fact must always be taken into consideration in the planning of a ventilation system in a building. The following illustrations clearly show the difference between adequate and insufficient ventilation of a space.



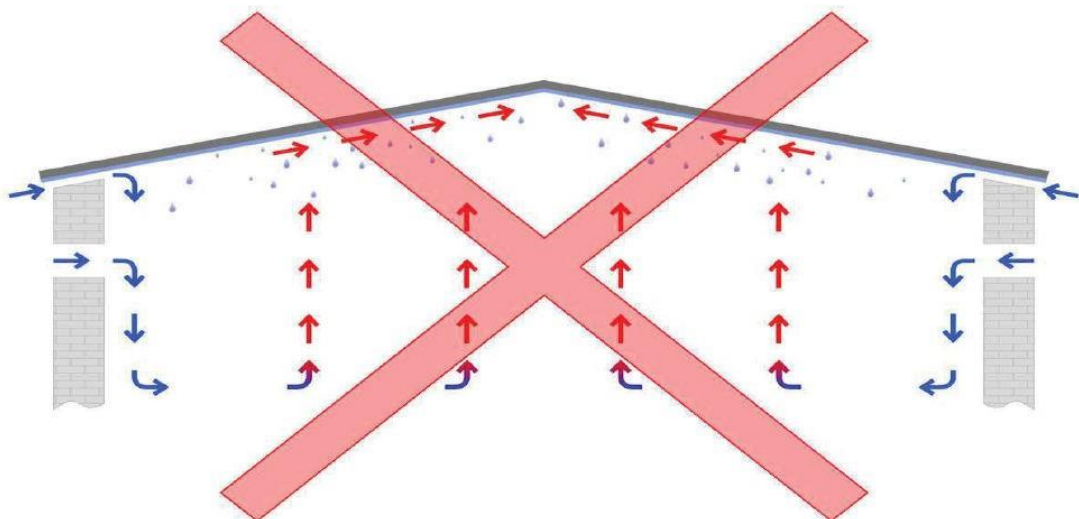
*Graphic 4: Adequate ventilation in an insulated building with air supply at the sides and air outlet at the top of the roof*



*Graphic 5: Insufficient ventilation in an insulated building with air supply at the sides and no possibility of air outlet*



Graphic 6: Adequate ventilation in a non-insulated building with air supply at the sides and air outlet at the top of the roof



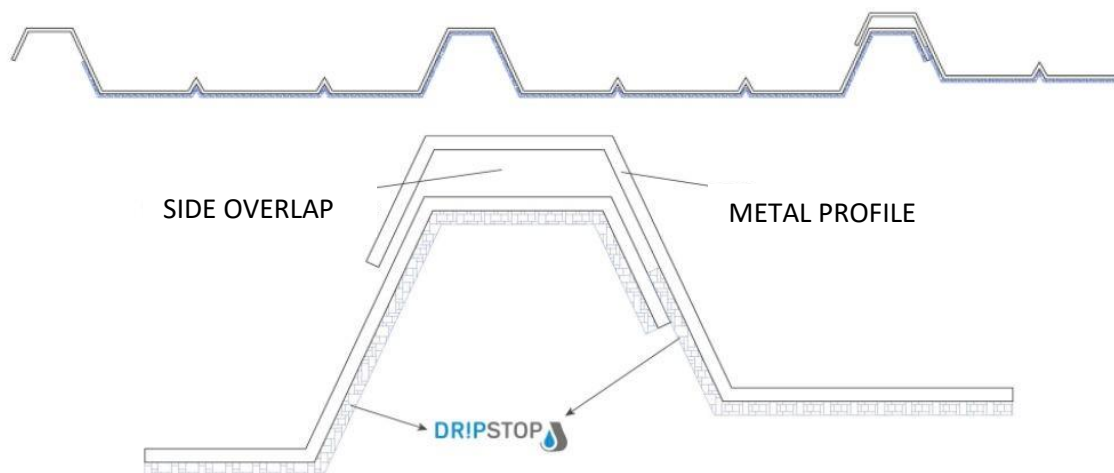
Graphic 7: Insufficient ventilation in a non-insulated building with air supply at the sides and no possibility of air outlet

## Capillarity

When building a metal roof with anti-condensation coating, it is important for the roof profiles to be manufactured and installed such that no capillary effect can occur.

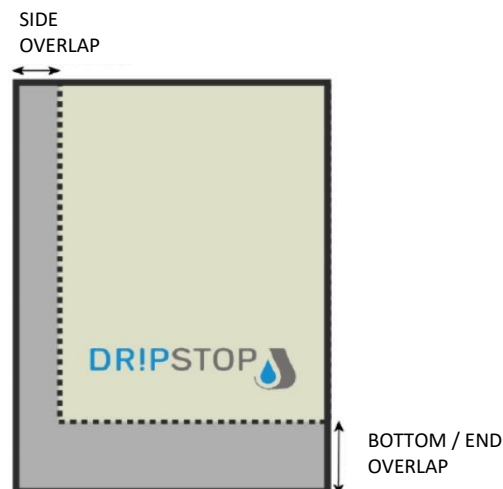
The capillary effect results from the surface tension of a liquid (here water) and the interfacial tension between liquid and solid surfaces (here the metal roof). As a result, the water moves up a bit against the force of gravity.

At a longitudinal joint in the metal profiles, the overlapping part of the profile is implemented without DR!PSTOP. Take care to ensure proper installation, particularly for the TR45/333 profile. A correct longitudinal joint is shown in Graphic 8.



Graphic 8: Correct longitudinal joint between metal profiles

In addition, the ends of the profile panels must be deactivated or sealed in order to prevent a capillary effect. The sealing or deactivation of DR!PSTOP is particularly important at transverse joints or for profile panels which lead into the gutters. Graphic 9 shows the deactivation of DR!PSTOP at the end and on the side of the profile panel. All Taborsky profiles with DR!PSTOP are sealed or deactivated at the cut edges in the factory (See the “Profiles with DR!PSTOP” chapter for more).



Graphic 9: Deactivation of DR!PSTOP

## Profiles with DR!PSTOP

The following profiles are equipped and available with DR!PSTOP:

Profile	DR!PSTOP	Sealing	Note
TR20/125	YES	YES	Thermal sealing
TR35/207	YES	YES	Deactivation through offset
TR40/183	YES	YES	Thermal sealing
TR45/333	YES	YES	Thermal sealing
TR50/250	YES	YES	Deactivation through offset
TR85/280 S	YES	YES	Thermal sealing
DP 33 roofing tile	YES	YES	Thermal sealing
DP 40 roofing tile	YES	<b>NO</b>	<b>Sealing on site</b>

DR!PSTOP is sealed or deactivated depending on the profile type. For deactivation through offset, DR!PSTOP is applied approx. 5 cm behind the cut edges in order to prevent the undesirable capillary effect. Graphic 10 shows deactivation through offset on a trapezoidal profile. Thermal sealing of the cut edges provides another option for preventing capillarity.



Graphic 10: Trapezoidal profile with offset



Graphic 11: Roofing tile with thermal sealing

For metal profiles with DR!PSTOP and thermal sealing with a profile length of less than 2 metres, cut edges are not sealed in the factory. Sealing of the profiles must be done at the construction site (see the “Installation” chapter).

## Transportation and storage

- The pack weight of profiles with DR!PSTOP is a maximum of 2 tonnes.
- Stacking of too many packs on top of one another is not permitted during transportation and/or during storage. Timbers can be placed under the packs for better load distribution.
- The storage space must be dry and enclosed.
- The plastic packaging may not have an airtight seal so that there is good ventilation.
- Always protect the pack against moisture!
- Protect packs against UV radiation!

## Installation

The anti-condensation coating may not be damaged during installation of the metal profiles. The roof and all of its parts must be planned, constructed and installed in accordance with the generally applicable construction standards. The following points must be observed during installation of metal profiles with DR!PSTOP:

- Metal profiles with DR!PSTOP may not be pulled across sharp edges.
- If the metal profiles are shortened on the construction site, then DR!PSTOP must be sealed at the cut edge (with a 1500-2000 W hot air gun or with a clear lacquer)
- Profiles with DR!PSTOP and thermal sealing below 2 m must be sealed on the construction site.
- The overlapping section in longitudinal jointing may not be coated with DR!PSTOP.
- For roofs with a low roof pitch, a folded eave edge and ridge upstand must be implemented in the metal profiles.
- Care should be taken to ensure proper ventilation of the roof!
- Additional sealing of the DR!PSTOP at the cut edges using clear lacquer is recommended for low roof pitches!
- In the event that the DR!PSTOP is soiled with organic substances in stables, cleaning with a fungicidal agent is recommended!
- Folded eave edges and ridge upstands must be implemented for shed roofs or structures with no wall cladding. An end plate must also be installed at the ridge and the gable so that the anti-condensation coating is not directly exposed to the weather.

## Technical data sheet

PROPERTY	TESTING METHOD	UNIT		VALUE
COMPOSITION				PES/PE/synthetic rubber
TREATMENT				Self-adhesive
FEATURE				Water absorption
GRAMMAGE	EN 29073-1	g/m <sup>2</sup>	±10%	95
THICKNESS	EN ISO 9073-2	Mm		<1
WATER ABSORPTION 0°	FIL int. 19	g/m <sup>2</sup>	min	900* <sup>1</sup>
WATER ABSORPTION 45°	FIL int. 19	g/m <sup>2</sup>	min	700* <sup>1</sup>
WATER ABSORPTION 90°	FIL int. 19	g/m <sup>2</sup>	min	500* <sup>1</sup>
WATER ABSORPTION	NF P 15-203-1	g/m <sup>2</sup>	min	600* <sup>1</sup>
FLAMMABILITY	EN 13501-1			A2 – s1, d0* <sup>1</sup>
SEPARATING FORCE L	FILC int. 29	N/25 mm	min	10* <sup>1</sup>
SEPARATING FORCE AFTER AGING – L	FILC int. 22	N/25 mm		improved
SOUND ABSORPTION	EN ISO 354	Hz	125 Hz	0.02
			500 Hz	0.04
			1000 Hz	0.04
			2000 Hz	0.12
			4000 Hz	0.42
THERMAL CONDUCTIVITY (λ)	DIN 52612	W/mK		0.038
BACTERIAL RESISTANCE	DIN EN 14119			Index 0 – no growth
COLOUR				White/black mix
WIDTH		mm	max	1500
CARDBOARD SLEEVE Ø		mm		76
*1 – FLEECE ON METAL SHEET				