

## How to use: TECNADIS METALCOAT BASE/PLUS

### Protective coating with hydrophobic and oleophobic properties

#### PRODUCT DESCRIPTION

Tecnadis METALCOAT

Component  
BASE



Tecnadis METALCOAT

Component  
ACTIVATOR

The products Tecnadis METALCOAT BASE/PLUS are presented as a bi-component product that have to be mixed before apply.

To mix the both components makes the product to heat, which verifies that the two components are being reacted. It is necessary to cool it 5-10 minutes before to apply the mixture onto the surface. The **proper proportion of the mixture of Component BASE and Component ACTIVATOR should be 4:1 in volume.**

#### HOW TO USE IT

##### STEP 1. PREPARING THE SURFACE

The surface must be **clean and dry** before the application. Avoid presence of dust or any other solid particles on the surface. To degrease the surface with alcohol and to dry with a cloth or air is recommended before the application of the Component BASE.

##### STEP 2. PREPARING THE MIXTURE

**Tecnadis METALCOAT BASE and PLUS** have been designed in **4:1 proportion** in the case of use all the product to add the whole content of Component ACTIVATOR into the container of the Component BASE.

The mixture process should consist in a slight stirring to ensure product's homogeneity, but **shearing forces are not required to achieve good mixing**. Once both components have been mixed, an increase in temperature is made as indicative of the chemical reaction is taking place. For this reason, let it cooling down to room temperature during 5-10 minutes before applying it onto the surface.

**Important:** After product's application, it is advisable to store the remaining liquid into a refrigerated place in order to maintain stability.



### STEP 3. PRODUCT APPLICATION

The application of the TECNADIS METALCOAT BASE/PLUS products can be performed by different techniques taking into account **morphology, dimensions and end-use** of the pieces to be treated. For small pieces, the **dip-coating** method is recommended, which consists in immersing the piece into the liquid during a minute and then draining excess. For larger pieces with good accessibility, application by a **compressed-air-powered-spray-gun** is advisable, as well as for in-situ applications on already existing devices and equipment. For applications in industrial series is better to use a **robotic arm system** to spray the product.

#### 1) SPRAY AIR-GUN

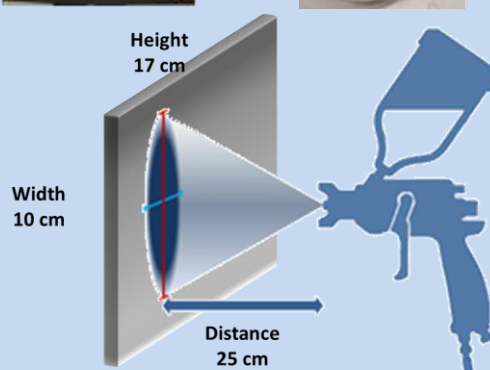
Paint spray gun is recommended and a compressor with an air flow capacity of at least 6 bar and with two spray controller parameters, air and product.

AIR GUN: REFERENCE MODEL		
MOUTHPIECE	Hole size	0,85 mm
HEAD	Head shape	Elliptical or equivalent
TYPE	Trans-Tech, with feeding filter	



To calibrate the gun, adjust the **spray pattern** and the **amount of product per time unit (ml/min)** to the values below, in order to assure an approximated yield of 60 ml/min:

GUN: CALIBRATION PARAMETERS		
DISTANCE TO THE GLASS		25 cm
ATOMIZATION		Medium – low
SPRAY	Width	10 cm
PATTERN	Height	17 cm
AMOUNT OF	Per unit of area	Approx. 60 - 70 ml/m <sup>2</sup>
PRODUCT	Per time unit	Approx. 50 - 65 ml/min

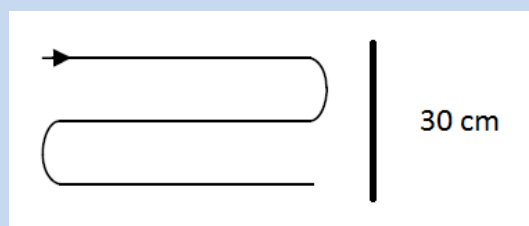
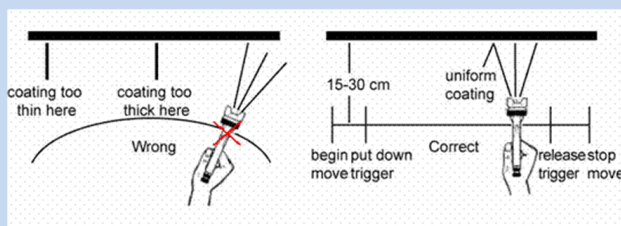


Spray the product on the surface in a single layer homogeneously, avoiding possible excesses and product's sags.

As a **standard application**, it is recommended to apply **only one layer**. **Approximated performance**: 60 - 70 ml/m<sup>2</sup>.

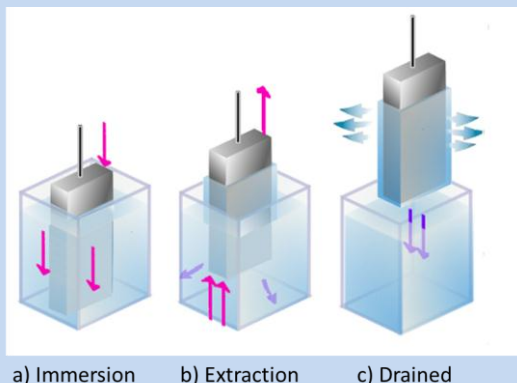
Product's spray **recommendations** are the followings:

- Follow the pattern of application, i.e, make passes in one direction with the gun perpendicular to the surface and trying to leave the gun in the same position.
- It is better to apply less amount than an excess, since that could end in a brittle white-colour-coating after drying which will be easily detached from the surface as flakes.
- If the product drains after its application, use the air of the gun or a cloth to dry and spread it out uniformly along the surface.
- After deposition of the TECNADIS METALCOAT BASE/PLUS, the solvent dries in one minute.



## 2) DIP-COATING

To carry out the dip-coating, introduce the piece to be treated into the liquid during one minute approximately to ensure a complete wetting of the substrate. Remove with a controlled and constant speed and allow draining the liquid's excess.



## STEP 4. CURING OF THE TECNADIS METALCOAT BASE/PLUS

This product needs a thermal drying at 100°C until all the solvent has been evaporated and the coating has not longer wet look. Several thermal devices can be used to this aim, namely **ovens** for small pieces and industrial line productions, or **thermal portable devices such as thermal guns or cannons** for in-situ applications in already-existing lines. The recommended duration for this process should be between **15-30 minutes**, depending on the piece to be treated and the thermal device used.

For the last step to fix the coating to the surface, it is necessary a **thermal sintering at 300°C during 15-30 minutes**, depending on the piece to be treated and the thermal device used, that can be the same as used for the before step.

For example, in the case of using an oven the curing process, the piece (s) is subjected to two consecutive thermal processes at 100°C and 300°C during 30 minutes each. In the case of using the thermal gun or cannon, the device's power will be adjusted to get the indicated temperatures in the piece (s) during the corresponding times. In the case of using a LEISTER, it has been estimated that 10 minutes/m<sup>2</sup> approximately and power between 3 and 20 min/m<sup>2</sup> will be needed. Then, to ensure a good fixation specific thermal contribution of 3 to 5 seconds per area of 5 x 5 cm approximately can be made.

**Important:** Direct contact with the heat focus and hot supports must be avoided since a strong thermal shock at this point may cause a too fast drying, ending in a whitish and brittle coating.



## INSTRUCTIONS FOR HANDLING

The security information of the product needed for its use without risks is not included in this document. Before manipulating the product, read carefully the Material Safety Data Sheets and the labels for a safe use and to be aware of physical and health risks. The MSDS are available and are provided by TECNAN S.L. Application of the product should be carried out in a properly ventilated place. It contains volatile solvent (ethanol).