
HT 45 TRANSPARENT: Technical Data Sheet

1. Description and Main Features

HT 45 Transparent is a bicomponent (base and catalyst) addition RTV silicon rubber that vulcanizes at room temperature.

Indicated for the duplication of models with small recesses.

The main property of the product to be vulcanized is its remarkable fluidity.

The main properties of the vulcanized product are:

- High chemical resistance to the aggressive components of some types of resin;
- Extremely high tear strength (this feature guarantees high resistance to wear and tear);
- High accuracy in reproducing very small details;
- High dimensional stability in time and indeformability;
- Remarkable resistance to high temperatures and aging;
- Excellent anti-stick effect.

2. Main Fields of Application

Mould-making and model-making (for its remarkable reproduction accuracy, high dimensional stability and high mechanical strength). Please before the silicone goes in contact with polyurethane resin, please contact us.

Art ceramic (for its remarkable reproduction accuracy, high mechanical strength)

Rapid Prototyping (for its remarkable reproduction accuracy, high mechanical strength)

Jewellery

3. Instructions for use

Take the two bi-component products supplied by Zhermack (base and catalyst) and shake before use. Weigh an equal amount of catalyst and base (ex. 100 grams of catalyst and 100 grams of base; within a 5% error range the end result is not altered). Once the product is weighed and it is assured that the base and catalyst are equal, the two components are inserted in a recipient and mixed thoroughly. It is important to check while mixing that no residue remains on the base and sides of the recipient. Mix energetically until the colour of the product is homogeneous. Once the product is mixed it is poured, preferably 30cm above the recipient into the mould. The working time is approximately WT (see table below) from the beginning of the mixing at 23°C. It is advised to vacuum the mixture to prevent air pockets. If the quantity used is less than what is needed to complete the duplication, complete the hardening of the silicone and then proceed with the addition (within 24 hours from the hardening of the first mould) of the remaining silicone needed. The material attaches to the silicone without altering the final result.

The setting time (time the silicone needs to vulcanize) is about ST at 23°C (see table below). After the ST is complete, from the start of the mixing, we can separate the model from the mould. If necessary use compress air to facilitate this separation. It is important not to force this separation with sharp objects that can deform the final stamp. The silicon rubber is compatible with all gypsums, coatings, polyurethane resins and acrylic resins

Note: The working time and thus the setting time are reduced if the temperature exceeds 23°C (ex. If the temperature is 40°C, the working time is halved and the setting time is approximately halved). If the temperature is less than 23°C

both the working time and setting time increase considerably. (ex. If the temperature is 4°C, the working time doubles and the Setting time increases three times the minutes indicated at 23°C) . .

4. Important Recommendations

The exact proportions 1 : 1 must be respected to obtain the correct times and not to alter the final characteristics of the product. The surfaces with which the material enters in contact must be perfectly clean, free of grease and dry.

NB: before use, we recommend the two components be homogenized so as to avoid sedimentation.

5. Chemical and Physical Properties

Vulcanized product

Mixing ratio	1 : 1
Viscosity of pre-catalyzation mixture	< 8'000 cP
Density	1,1 g/cc
Working time at 23 °C (73 °F)	WT= 10' – 12'
Setting time at 23 °C (73 °F)	ST= 60' – 90'
Shore A hardness after 24 hours	43 ± 3 shA
Breaking load	3.5 ± 0.5 N/mm ²
Elongation at break (%)	370±40 %
Tear strength	19.0 ± 2.0 N/mm

6. Available Packages

Zhermack code	Packages
DT23831	1kg + 1kg
DT23832	5 kg + 5 kg
DT23833	25 kg + 25 kg

7. Safety Data Sheets

The safety data sheets are available at Zhermack SpA.

The preparation is not to be considered hazardous in accordance with directive 88/379/CEE and subsequent amendments.

8. Shelf Life

The HT 45 Transparent is guaranteed for a period of 18 months if stored correctly at a temperature of between 5° - 27°C (41° - 80°F).

Close the bottles after use, do not invert the caps or lids between the base and catalyst.

IMPORTANT OBSERVATIONS

The advice given verbally, in writing or through demonstrations on the use of the products are based on our knowledge. The use and application of the product by the user lie beyond the control of the company and are therefore the user's own responsibility.

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