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ZHERMACK HT 45 TRANSPARENT

Description and key features

Pourable two-component polyaddition silicones that vulcanise at room temperature.

Special features

- Excellent long-term stability of the mechanical properties of the hardened rubber
- Sustainability
- Precision in reproduction

Main application areas

- Mold making (high mechanical resistance, dimensional stability and precision in reproduction)
- Jewellery (high mechanical resistance, dimensional accuracy and precision in reproduction)
- Rapid Prototyping (for small and highly detailed object with very thin surface (Turbine example))

Operating instructions

Take the two-component products (base and catalyst) and shake before use. Weigh an equal quantity of catalyst and base (e.g. 100 g of catalyst and 100 g of base; within an error range of 5%, the final result does not change). When removing the product from the container, it is necessary to use two different spoons for each component to avoid contamination of the product. Once the product has been weighed and it is certain that the base and catalyst are the same, the two components are placed in a container and mixed thoroughly. It is important to check during mixing that no residue remains on the base and sides of the recipient. Mix energetically until the colour of the product is homogeneous. Once mixed, the product is poured into the mould, preferably 30 cm above the object. The working time (see table below), also known as "pot life", is the recommended period for mixing / degassing prior to pouring. Please note that some Vaseline oils may interfere with curing. Make a small test first.

The processing time runs from the start of mixing at 23°C. It is recommended to degas the mixture to avoid air bubbles. If the quantity used is less than necessary, add the remaining silicone within 24 hours of curing. The material will adhere to the silicone without changing the final result.

The curing time is the time the silicone needs to vulcanise at 23°C (see table below). After the curing time has been completed, we can separate the model from the mould. If necessary, use compressed air to facilitate this separation. It is important not to force this separation with sharp objects that may deform the final mould. The silicone rubber is compatible with all plasters, coatings, polyurethane resins and acrylic resins.

Note: The working time and thus the curing time are reduced if the temperature is higher than 23°C (e.g. if the temperature is 40°C, the working time is halved and the curing time is approximately halved). If the temperature is lower than 23°C, both the working time and the curing time increase significantly. (E.g. if the temperature is 4°C, the working time doubles and the curing time is shown three times at 23°C).

Properties of cured silicones are guaranteed at temperatures ranging from a minimum of -40°C to a maximum of +200°C.

Key recommendations

The exact ratios 1:1 must be respected in order to obtain the right times and not to change the final characteristics of the product. The surfaces with which the material comes into contact must be perfectly clean, free of grease and dry.

NB: Before use, we recommend homogenising the two components to avoid sedimentation.



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Chemical and physical properties

PRODUCT DATA (not mixed)

	Base	Catalyst
Colour	Translucide	Translucide
Density at 23°C (g/cc)	1.11	1.11

PRODUCT DATA (Vulcanised product)

Colour	Translucide
Mixing ratio	1:1
Viscosity of pre-catalyst mixture	8000 cP
Operating time at 23°C (73°F)	12 min
Initial curing at 23°C (73°F)	2 hours 30 min
Shore A hardness after 24 hours	45 sh A
Tensile strength	5 N / mm ²
Stretch to break	250%
Tear strength	15 N / mm

These figures are for guidance only and should not be used in the preparation of specifications. Vulcanisation after 24 hours at 23°C.

Shelf life

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

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

Storage after the date indicated on the label does not mean that the product is no longer usable. In this case, however, the properties required for the intended use must be checked for quality assurance reasons.