# ZC 10 BASE

**RTV2 Silicone Rubber for industrial use.**
**Bicomponent poly-condensation silicone indicated for Mold making applications.**

## 1. Main Characteristics

ZC 10 base is a poly-condensation curing, two component silicone that vulcanize at room temperature. It presents the following special features:

- Low Shore A hardness (approx. 10)
- High tear strength
- Low dimensional variation

## 2. Applications

ZC 10 BASE is indicated for use in the following application:

- Industrial (low dimensional variation, high mechanical resistance, long life of the mold)
  *PU resins:
  - Please apply a release agent to protect the silicone mold.
  - If you use for the first-time this silicone or a new resin, please do a small test before it does not compromise the work.

## 3. Processing

Take the two bi-component products supplied by Zhermack (BASE and ZC CURING AGENT PU) and shake before use in order to homogenize each component prior to mixing. BASE component is white, ZC CURING AGENT PU component is transparent/yellowish.

Mixing ratio must be 100:5 (5 units of ZC CURING AGENT PU for every 100 basic units). For example, for 1 kg of base, add 50 g of hardener. This ratio must be respected to ensure the final characteristics of the product. DO NOT exceed the recommended ratio for the curing agent. You can use less ZC CURING AGENT PU (3-4%) than the recommended ratio (5%), in this case the dimensional change will be lower but setting time will increase.

The hardness is reached after a few hours (see table) and if the correct percentage of catalyst is respected. After 24 hours the product is cured. After 72 hours, perfectly hardened.

Mix vigorously until the mixed white color is homogeneous. Once the product is completely mixed, it is ready to be melted and it is recommended to pour the silicone from a height of 30 cm into the mold.

Complete curing takes about 72 hours after mixing the two components. However, the product can be disassembled in just 18-24 hours.

The WT value in the table refers to a standard temperature of 23 ºC. The ST setting time is the time required for the silicone to harden from the start of mixing the two components. The ST shown in the table refers to a standard temperature of 23 ºC.

## 4. Important recommendations

- Before handling the product, read the safety data sheet and make sure to get all the information required for safe use.
- Test the product it in small scale quantity before extending the use in larger scale.

- Condensation bases accelerate naturally near the expiration date; it is recommended to use, in this case, less catalyst so that the product acquires flexibility and withdrawal.
- Before use, homogenize BASE and ZC PU CURING AGENT separately for possible sedimentation.
- If necessary, use compressed air to facilitate this separation. Do not use any tools to force the separation of the model from the mold.
- Working time and setting time are reduced if the temperature exceeds 23°C (e.g., if the temperature is 40°C, the working time and setting time are approximately cut in half). If the temperature is less than 23°C, the working time and setting time increase considerably.

## 5. Physical and Chemical Characteristics

*The figures provided are only intended as a guide and should not be used in preparing specifications.*

Component BASE (uncured)

| **Properties** | **Specifications** | **Analytical Method** |
|---|---|---|
| Viscosity | <50000 cP | Internal Method (Brookfield) |
| Density (Metric system, 23°C/ 73°F) | 1,17 g/cc | |

Base + Catalyst (cured components)

| **Properties** | **Specifications** | **Analytical Method** |
|---|---|---|
| Mixing Ratio | 100:5 | n.a. |
| Working time/Pot life (23°C/ 73°F) * | 60’ | Internal Method (Brookfield) |
| Setting time (23°C/ 73°F) | 24 h | |
| Shore A hardness after 24 hours, 23°C | 8 shA | ASTM D2240 |
| Shore A hardness after 72 hours, 23°C | 12 shA | ASTM D2240 |
| Tensile Strength (Metric System, 23°) | 3,2 N/mm$^2$ | ASTM D412 |
| Tear strength Die B (Metric System, 23°) | 20 N/mm | ASTM D624 |
| Elongation at break (23°) | 590% | ASTM D412 |
| Dimensional Variation 48 hours | 0,40% | |
| Dimensional Variation 7 days | 0,91% | |

*The working time “WT”, also known as “pot life”, is the recommended time period for mixing/vacuuming prior to casting. The reported WT shown in the table refers to a standard temperature of 23°C.

Cured Silicone properties are guaranteed within temperatures ranging from a minimum temperature of - 40 °C to a maximum temperature of +200°C.

## 6. Packaging

ZC 20 BASE

| Item code (Internal Zhermack code) | Packaging |
|---|---|
| DT00530 | ZC 10 BASE 1 KG |
| DT00531 | ZC 10 BASE 5KG |
| DT00532 | ZC 10 BASE 20 KG |
| DT00533 | ZC 10 BASE 200 KG |

ZC CURING AGENT

| Item code (Internal Zhermack code) | Packaging |
|---|---|
| DT00160 | ZC CURING AGENT PU 50 g |
| DT00161 | ZC CURING AGENT PU 250 g |
| DT00162 | ZC CURING AGENT PU 1kg |
| DT00163 | ZC CURING AGENT PU 2x5kg |

THIXO AGENT

| Item code (Internal Zhermack code) | Packaging |
|---|---|
| DT00673 | THIXO AGENT SILICONE 250g |

## 7. Shelf life and storage conditions

The “Best use before end” date of each batch is shown on the product label.

12 months if stored correctly at a temperature between 5° and 27°C (41° - 80°F).

## 8. Notes

The advice provided as oral or written recommendations or through product use demonstrations are based on the Company knowledge.

Use and application of the product by the user are not subjected to Company’s monitoring or restrictions, therefore the final responsibility falls on the user.

Storage beyond the date specified on the label does not necessary mean that the product is no longer usable. In this case, however, the properties required for the intended use must be checked out for quality assurance reasons. Please contact your Sales Area Manager for support.

## 9. References

n.a.