

Technique OC

Optically Clear UV Stable Polyurethane Resin

Vacuum casting polyurethane system. Water Clear, U.V Stable

Technique O.C. optically clear polyurethane has excellent mechanical properties that simulate thermoplastics such as polycarbonate, shock resistant PMMA and ABS. Technique OC has a long pot life so that castings up to 40 mm may be performed. It is ideal for casting lenses and parts requiring exceptional clarity.

Main Features

Exceptional Clarity - Low viscosity - Extremely rigid - UV stable

Mixing Ratio by weight

Technique OC Part A : Technique OC Part B
100 : 120

Product Data

	Technique A	Technique B	Mixed
Material	Clear polyol	Isocyanate	
Appearance	Clear liquid	Clear liquid	Clear liquid
Density @ 25°C	0.99 g/ml	1.07 g/ml	1.06 g/ml
Viscosity @ 25°C	400-500 mPa.s	20-30 mPa.s	100-120 mPa.s
Pot life (110 g) @ 22°C			10-11 minutes
Demould time @ 65°C			60-90 minutes
Maximum casting thickness			40 mm



Mould Preparation

Carefully clean the mould, then spray silicone release agent onto the surface. Ensure that the surface is dry before coupling the mould parts. Heat the mould in an oven to 60-70oC, this may take several hours if the mould is very large. We do not recommend the use of condensation cured silicone rubber with this product.

Resin Preparation

Open both A and B containers and examine for any signs of crystallisation, place in the oven at 45oC if any crystals are formed. Cool the Part B to room temperature before using. The material does not need degassing prior to use. The pot life and mix time of the material depends on the resin temperature.

Measuring

Weigh A into cup A and B into cup B. When making the first mix, please allow for the cup-loss which varies from machine to machine. Degas in the machine for approximately 8 minutes.

Mixing

If using pigmented, add the pigment to the part A (do not use more than 5% pigment). Mix the A and B for 90-180 seconds, depending on the resin temperature; the warmer the resin, the shorter the mix time can be.

TIP: If a 'swirly' effect occurs in the castings, mix the two components for a longer time before pouring.

Curing

Place mould in oven at 60-70oC for 60-90 minutes immediately after casting. Curing time, especially in thin sections, will depend on mould temperature. The warmer the mould, the quicker the cure.

Polishing tips

For general polishing of a moulded part use a fine liquid polish such as Farècla G100. If a deep scratch needs to be removed then wet and dry paper should be used in the following descending grit sizes 400, 800, 1000 and 1200. A course and fine polishing paste such as Farècla G7 and Farècla G10 should then be used finishing with G100. This information is for guidance only. If you have any queries please contact Dalchem's technical department.

Tints

Technique OC can be tinted using Dalchem proprietary dyes to achieve coloured lenses or coloured glass type finishes.

Cured Properties

Property	Cured 45 mins @ 70°C + 7 days @ Room Temperature
Shore hardness (D)	80-85
Linear Shrinkage (500 x 20 x 5 mm)	0.26%
Tensile Strength ISO 527-2:1993	52-56 MPa
Elongation @ break ISO 527-2:1993	20-34%
Flexural Strength ISO 178:1993	85-90 MPa
Flexural Modulus ISO 178:1993	2250-2300 MPa
Refractive Index	1.47
Glass Transition (Tg) (DSC)	80°C

Storage

Store both components A and B at 25-30°C. The Part B may crystallise partially or completely if not stored at above 20°C. The two components are moisture sensitive **KEEP THE PACKING TIGHTLY CLOSED WHEN NOT IN USE**. Moisture absorption will cause excessive aeration in cast parts. Shelf life is 3 months unopened.