Schouten Group
SynTec

TDS / ENG

Technical Data Sheet

SGPU 385 VC

1. SGPU 385 VC

Two Part urethane, Flame Retardant Vacuum Casting System / Shore D 85 – 90 Hardness.
SGPU 385 VC is a polyurethane vacuum casting resin with excellent mechanical properties which produces products with high impact resistance and elasticity. SGPU 385 VC is a fire retardant material and is specifically designed for use in gravity vacuum casting machines. The product has excellent physical properties, low viscority and is approved to UL94 V-0.

LOW VISCOSITY / EXCELLENT PHYSICAL PROPERTIES / UL94 V-0

2. MIX RATIO

	Material	Mix ratio by weight	Pot life (200g, 25°C)	Demould Time (200g, 25°C)	Linear Shrinkage %	Tensile Strength MPa	Elongation at break %	Flexural Strength MPa	Flexural Modulus MPa	Flame Retardancy
	Aluminium filled epoxy casting system.									
SGPU 385 VC	Polyurethane	100A:120B	7– 8 min.	45-60 min.	< 0.2	80.0 - 85.0	6.0 - 8.0	105-115	2250 – 2750	UL94 3 mm -> V-0 file: E213605

* Maximum Casting thickness 15 mm

3. METHOD OF USE

MOULD Preparation: arefully 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 – 70°C; this may take several hours if the mould is very large. Splitting the tool will speed up the warming process. 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 crystallization, place in the oven at 45 – 60°C if any crystals are observed. Both components should be heated to 40°C before use. If using pigments, add the pigment to the part A. We suggest using 1 – 3% pigment maximum.

4. MIXING INSTRUCTIONS

Weigh SGPU 385 VC into cup A and SGPU 385 VC B into cup B. When making the first mix allow an additional amount of A to account for the cup loss. Degas for 5 – 10 minutes, whilst slowly mixing cup B. After degassing, pour cup A into cup B while mixing. Mix the A and B components for 45 seconds, this will ensure thorough mixing of the components. When mixing is complete pour the mixed material into the mould. When material can be seen exiting from the risers break the vacuum.

5. CURING AND POST CURING

Place the mould in an oven at 70°C for 45 – 60 minutes immediately after casting. Curing time, especially in thin sections, will depend on mould temperature. The warmer the mould, the quicker the cure. We do not recommend this resin to be cast to more than 15 mm depth.

A post cure can be applied to the product to improve the temperature resistance. Allow the product to cure at room temperature for 24 hours and then heat for 1 hour at 60°C, 1 hour at 80°C, followed by 3 hours at 100°C. To prevent any distortion during the post cure cycle, the unit should be placed on a conformer. When post-curing is complete, let the unit cool down slowly to room temperature, preferably in the oven. Sudden change in temperature can cause distortion or warping. Post curing the product can lead to increased shrinkage.

6. STORAGE

SGPU 385 VC A and B should be stored in original, unopened containers between 20 and 25°C. 385 B may crystallize partially or completely if not stored at above 20°C. Like all polyurethanes, both components are moisture sensitive. Moisture absorption will cause excessive aeration in cast parts. KEEP THE PACKING TIGHTLY SEALED WHEN NOT IN USE.

The shrinkage value above is quoted as a guide only. Shrinkage will vary with each casting, as factors such as mould size and geometry can affect the degree of shrinkage. Generally speaking, large, thick castings will have a greater degree of shrinkage than small, thin castings. Other factors, such as mould temperature and resin temperature can also have an effect. Post curing the part can also lead to a greater degree of shrinkage.

Further Information: This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum. Our technical advice, whether verbal, or in writing is given in good faith, but without warranty – this also applies where proprietary rights of third parties are involved. It does not release you from the obligation to test the products supplied by us as to their suitability for the intended process and use. Before using any of our products, users should familiarise themselves with the relevant TDS and MSDS provides by Schouten Group / Syntec.

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