



Crestamould[®] T28

Polyester-based extrudable and machinable seamless tooling compound

Product Overview

Crestamould[®] T28 is an extrudable modified polyester compound designed for milling of small and large plugs or direct limited production moulds with Computer Numerical Control (CNC) multiple axis machines. Crestamould[®] T28 can be extruded with conventional FRP putty dispensing equipment. Crestamould[®] T28 provides a homogeneous substrate that prevents print from the underlying structure and gives sufficient flexibility to prevent cracks. Crestamould[®] T28 retains its machinability over time - it is as easy to machine after 6 months as when freshly applied. Crestamould[®] T28 is catalyst specific - it must be catalysed with a 1:1 blend of MEKP and CHP catalyst.

Features and Benefits

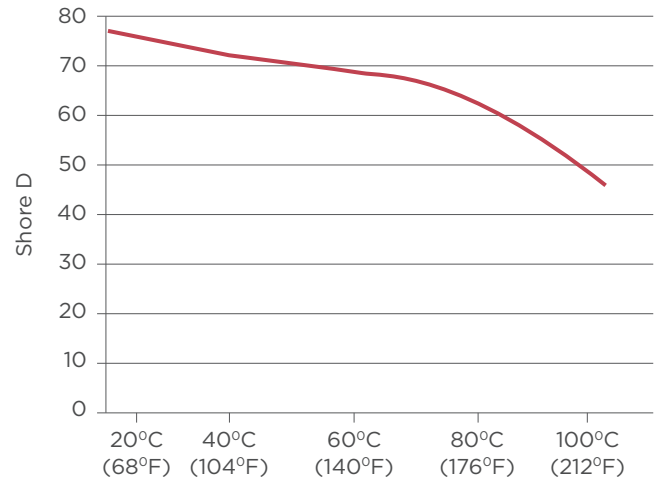
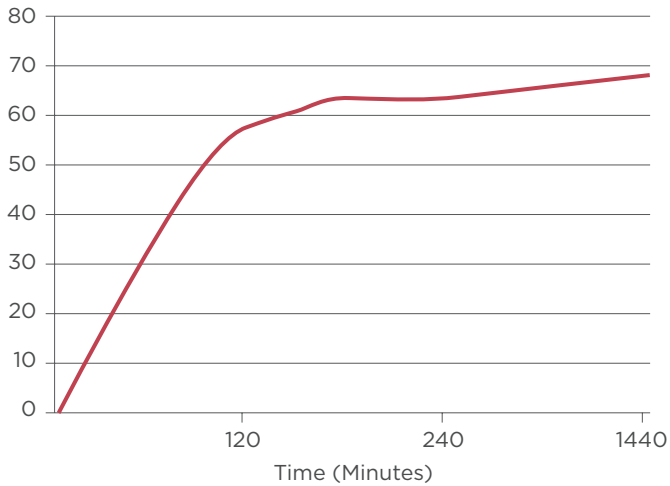
- Dispensed with conventional FRP putty equipment
- Polyester chemistry - catalysed with MEKP/ CHP blend
- Tough and resilient, remains non-brittle
- Easily adjustable output for large and small tools
- Dimensionally stable after 24 hour at room temperature
- Easy and fast to machine, produces shavings - not dust
- No settling in the equipment
- Bonds to itself - easy to repair low spots
- Compatible with poly/ vinylester sanding primer
- Retains machinability over time, after 24 hours, or after 6 months
- Vertical hang up to 1" (25mm)

General Properties

Colour	Beige
Density	0.75 - 0.80 g/cc; 6.25 - 6.66 lbs gallon
Linear Shrinkage	Less than 1%
Thixotropic Index	6 - 7
Viscosity, Brookfield HAF T-C, @ 5rpm, 21°C	280,000 - 320,000 cps
Peak Exotherm, 1" (25mm) cube (2.4%*Syrgis MCP), 24°C	67°C (151°F) at 112 Minutes
Peak Exotherm, 100 gram mass (2.4%* Syrgis MCP), 24°C	110°C (222°F) at 75 Minutes
Hardness after 24 Hours, at Room Temperature	75 Shore D
Hardness at 80°C (176°F)	60 Shore D
Gel Time, 2.4%* MCP at 24°C (75°F)	35 - 45 Minutes

* Catalysts percentages are given by weight, not volume.

Shore D vs. time and temperature



Application

Crestamould® T28 is applied using a ram-type polyester “Putty” dispensing unit equipped with a high-volume gun feeding a disposable clear reinforced poly-vinyl hose. The hose by itself as well as various cow-bell/ duck bill attachments depending on the complexity of the part can be used. Ideal thickness should be between 20mm and 25mm (3/4” and 1”). After machining, there should be a minimum of 10mm (3/8”) left on the part to provide a continuous homogeneous surface for the tool. The secondary bonding window is such that no sanding is required between coats if the job is stopped. The coverage is 0.6 gallons per inch per ft² (1 litre/1mm/m²). The ideal shop temperature is between 15° - 35°C (60° - 95°F), preferably a constant 25°C (77°F). Tool marks are removed with 40 grit sandpaper. Extra fairing, if required, can be done with Crestafix® F26. The surface needs no further preparation prior to the application of a sanding primer. Cracks and air pockets can be repaired with Crestamould® T28 or with Crestafix® F26. After machining, small defects can be hand sanded.

Catalysation

For a low exotherm, use a 1:1 blend of MEKP and CHP catalyst. Syrgis Norox MCP catalyst or equivalent* is recommended. A minimum catalyst level of 2.4% by weight and 1.75% volumetric on the equipment is required (see “Machining below”). Syrgis MCP catalyst has a density of 1.07, vs. T28 with an average of 0.78g/cc. A regular MEKP can be used, but the extrusion thickness must be kept below 1/2” (12mm).

* Please contact us for equivalent catalysts.

Substrate

A stable base little affected by variations in temperature is desirable. Typical substrates are MDF, polyurethane and expanded or extruded polystyrene foams. Polystyrene foams need to be sealed with Crestamould® B12R sealer. The Technical Data Sheet for Crestamould® B12R gives more details about suitable polystyrene foams which should have a min. density of 1.5 lb/ft³ (24 kg/m³), and a min. compression strength of 40 psi (0.27M/mm²). Both PU and PS foams should have a light laminate for better stability and easier de-moulding. The exotherm can exceed the HDT of very low density polystyrene foams, so it is advisable to apply the Crestamould® T28 in two passes at approx. 3/8-1/2” (10-12mm).

Equipment

Using MEKP catalyst, Crestamould® T28 is dispensed through conventional internal mix catalyst pumping system with a ram-type equipment.

Machining

Use carbide tools. Use a positive rake; 2,3 or 4 flutes. End-mill tools are used for the majority of the work, ball-end tools for finishing. Calculate a chip load of 0.5mm (0.020") to set the feed rate versus rpm versus number of flutes. Adjust speeds to avoid overheating or overloading and material pull out. Do not leave the CNC unattended. Brush or blow off material as it accumulates on flat surfaces. If possible, blow air at tool-tip. A shop temperature of 24°C (75°F) and above will improve machining and reduce tool wear.

Caution: accumulation of under-catalysed shavings can generate heat and smoke in extreme cases with charring of the material. To avoid this, fill the shavings in metal drums, pack it down, add water and store outside.

Additional Information

Process guide

Please request the Crestamould® T28 Process Guide which outlines the functions and processing guidelines in more detail.

Shelf life

Crestamould® T28 is a stable product, and adequate long-term storage conditions will result in a shelf-life of 6-12 months or more. After this time, the gel time may drift, and should be checked before use.

Storage

The product should be kept in securely enclosed containers. Storage should be in a dry inside place and out of direct sunlight. The temperature should be between 18° - 25°C (65° - 77°F). Allow Crestamould® T28 to reach shop temperature before using. Keep containers closed to eliminate styrene evaporation and to avoid change in properties of the material. Rotate stock to use oldest batch numbers first.



Making a positive difference

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Scott Bader UK
Wollaston
Wellingborough
Northants
NN29 7RL
UK

Tel: +44 (0)1933 663100
email: enquiries@scottbader.com

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