

TECHNICAL DATASHEET

CML SM-105 Structural Adhesive

Description:

CML SM-105 is a two component, 10:1 mix ratio toughened structural adhesive formulated for bonding GRP components to themselves and/or to metals and plastics. SM-105 forms tough, durable bonds to many diverse substrates without surface cleaning, sanding preparation or the use of primers, or chemical wipes. This is a fast curing product with an open time of the mixed adhesive in 5 minutes and fixture in 10-12 minutes. The cure time is designed for normal manufacturing processes where a medium fast open time and normal fixturing is required.

SM-105 has a non sag viscosity which can support a 12mm diameter bead on vertical surfaces. The high thixo ratio and synergistic viscosity increase at mixing allows for easy dispensing out of cartridges through mixer tubes as well as bulk dispensing equipment. This product has increased flexibility over normal methacrylate adhesives to handle fatigue and peel loading.

Due to excellent chemical and weathering characteristics, CML SM-105 is recommended for outdoor weathering or solvent exposure, thermoformed plastic assemblies, PVC, Composites, Vinyls, ABS, Steel, Aluminium*, Acrylics, Phenolic, Polycarbonate, Styrenics, Wood, Concrete and Ceramics.

* Use of CML Metal Primer is recommended for durable adhesion to aluminium alloys and stainless steel where external exposure is likely.

Benefits:

- Convenient 10:1 mix ratio
- Room temperature curing
- Rapid fixture times
- Minimal surface preparation required
- High resistance to hydrocarbon based fuels (Petrol, jet fuel, Motor oil, and hydraulic fluid)
- Thixotropic/non-sagging
- Bonds dissimilar substrate combinations
- Gap fill to 12mm

Handling Properties:

	Adhesive	Activator	Test Method
Density, g/cm ³	0.97	0.97	ASTM E-201
Viscosity @ 25°C, cPs	140,000	80,000	ASTM D-2393
Colour	off-white	Amber	ASTM D-2393
Mix Ratio by Volume	10	1	Calculated
Working Time	5 minutes at 22°C		
Setting Time	10-12 minutes at 22°C		
Full Cure	4 hours		
Shelf Life	Six months from date of shipment if stored at <23°C		

Performance Characteristics:

Bond strength tensile shear (ASTM D1002)	
Aluminium/aluminium (MPa)	16.5- 18.6
Grit blasted steel (MPa)	21.3- 23.4
ABS/ABS	Substrate Failure
GRP/GRP	Substrate Failure
Impact resistance (ASTM D950-61T grit-blasted steel; J/m)	1170
Shore hardness (D)	50
Gap filling (mm)	12
Tensile elongation (%)	25

Use:

For optimum performance, surfaces should be solvent wiped, free from heavy grease deposits, oil, dirt or other contaminants.

Apply the mixed adhesive directly to the surface and mate within five minutes to be assured of maximum bond strength. Allow application to set for minimum of 12 minutes before handling. Full cure will be achieved in four hours at 22°C. Working time and fixture time will change depending on ambient temperature.

Storage & Shelf Life:

Adhesive should be stored in a cool, dry place when not in use for extended periods. SM-105 has a shelf life of 6 months when stored at room temperature. Shelf life may be extended by refrigeration.

Safety Handling:

Consult Safety Data Sheet before use.

Work in well ventilated areas using gloves, eye protection and clothing protection. Avoid contact to the skin and eyes. Avoid clothing contamination. Wash thoroughly after handling. These products may cause skin and respiratory allergic reactions. Consult Safety Data Sheet for complete precautions with this product.

Important Notice: The information and statements herein are believed to be reliable, but are not to be constructed as a warranty or representation for which we assume legal responsibility. User's should undertake sufficient verification and testing to determine the suitability for their own particular purposes of any information or products referred to herein. No warranty of fit for purpose is made. Nothing herein is to be taken as permission, inducement, or recommendation to practice and patented invention without licence.