

TECHNICAL DATASHEET

CML SM-20 Structural Adhesive

Description:

CML SM-20 is a two component, 1:1 mix ratio toughened structural adhesive formulated for bonding thermoplastics, metals, ceramics, wood, concrete and standard thermoset plastics. Minimal surface preparation combined with intermediate fixture time makes the SM-20 ideal for a wide variety of assembly operations allowing for positioning of larger components. Excellent flexibility and toughness enables dissimilar substrates to be securely bonded. The final adhesive bond is designed to be load bearing and resistant to weather, humidity and a wide temperature variation.

Due to excellent chemical and weathering characteristics, CML SM-20 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 1:1 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 8mm

Handling Properties:

	Adhesive	Activator	Test Method
Density, g/cm ³	0.97	0.97	ASTM E-201
Viscosity @ 25°C, cPs	200,000	200,000	ASTM D-2393
Colour	off-white	Amber	ASTM D-2393
Mix Ratio by Volume	1	1	Calculated
Working Time	8-10 minutes at 22°C		
Setting Time	18-22minutes at 22°C		
Full Cure	8 hours		
Shelf Life	One year from date of shipment if stored at <23°C		

Performance Characteristics:

Bond strength tensile shear (ASTM D1002)	
Aluminium/aluminium (MPa)	22.8
Grit blasted steel (MPa)	29
ABS/ABS	Substrate Failure
GRP/GRP	Substrate Failure
T-Peel strength (ASTM D1876 steel/steel; kN/m)	2.6-3.5
Impact resistance (ASTM D950-61T grit-blasted steel; J/m)	1170
Shore hardness (D)	70
Gap filling (mm)	8
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 eight minutes to be assured of maximum bond strength. Allow application to set for minimum of 22 minutes before handling. Full cure will be achieved in eight 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-08 has a shelf life of six months when stored at room temperature. Shelf life may be extended by refrigeration. Do not freeze.

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.