

# Technical Data Sheet

## EL-804PC

Methacrylate adhesive for structural bonding applications

### Product Description

EL-804PC is a 10:1 mix two component methacrylate adhesive formulated for the demanding needs of structural bonding applications in metal, solar, composites and automotive industries. It bonds tenaciously to most metals, plastics and composite substrates and provides extremely high toughness and impact resistance. EL-804PC provides higher flexibility and elongation compared to other standard grade MMAs and shows excellent retention of its bonding properties under environmental ageing conditions. It does not require surface preparation or a primer on most surfaces.

### Product Characteristics

Working Time	6-8min (5gm mass at Room Temperature)
Fixture Time	15-20min
Gap filling	0.75-9.00 mm
Flash Point	11°C
Operating Temperature	(-55°C) to 120°C
Mixing Ratio	10:1
Shelf Life (from manufacturing date)	10 months

### Physical Properties of uncured material (Part A)

Specific Gravity	0.97
Viscosity @ 25°C, cps	100,000-130,000
Color	Off White
Mix by Volume	10

### Physical Properties of uncured material (Part B)

Specific Gravity	1.06
Viscosity @ 25°C, cps	40,000-80,000
Color	Blue
Mix by Volume	1

### Mechanical Properties of cured adhesive

Lap Shear strength, psi (ASTM D1002)	3000-4000
Tensile Strength, psi (ASTM D638)	2500-3300
Modulus, psi	150,000-200,000

### Key target substrates:

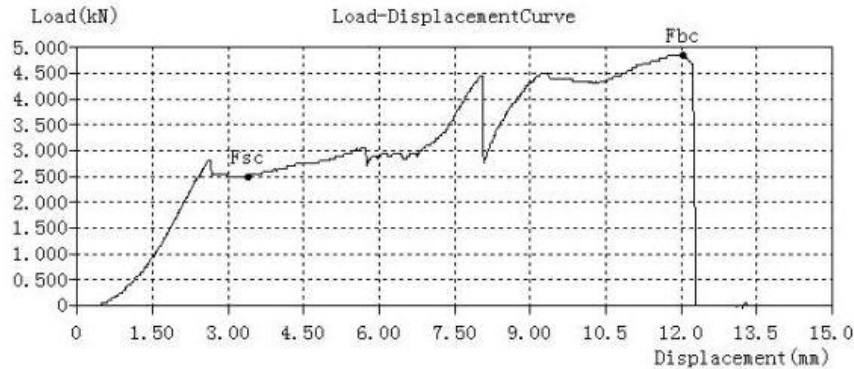
Thermoset	Thermoplastic	Metals
Composite/FRP/Carbon Fibre	Acrylic	Steel
Epoxy	ABS	Stainless Steel
Phenolic	Polycarbonate	Aluminium
SMC Components	PVC	E-Coated Steel
Gelcoat	other engineered plastics	
Vinyl ester		

# Technical Data Sheet

## Pull out force:

Tests performed on bond between GI Sheet and Aluminium block and cured for 48hours prior to testing in a UTM.

Surface Preparation: Acetone Wipe  
 Bonding Surface: 45X75mm  
 Bond line thickness: 0.8-1 mm  
 Pull out Force: 4.85 KN



## Ageing Test:

Tests performed on bond between GI Sheet and Aluminium block and cured for 48hours prior to environmental ageing.

Surface Preparation: Acetone Wipe  
 Bonding Surface: 45X75mm  
 Bond line thickness: 0.8-1mm  
 Pull out Force: 5.5 KN

Environmental ageing on parts in accordance with field conditions as follows:

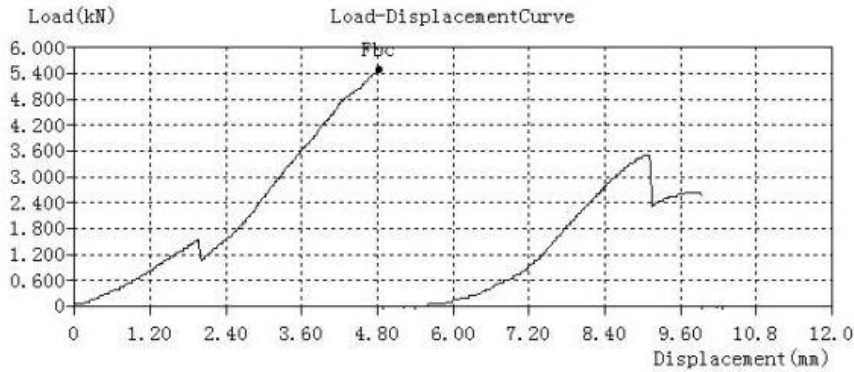
Ageing details	Duration in Hours	Double Hammer Test*
Aged under sunlight over rooftop between 20-40°C	350	Pass
Aged under night conditions over rooftop	350	Pass
Water Immersion under sunlight	96	Pass
Refrigerate between 5°C-8°C	96	Pass
Hot chamber at 70°C	96	Pass
Aged under debris**	96	Pass
Flexibility test - 70Kg bending load applied 100 times	N/A	Pass

\*Hammering on aluminium block twice after every test to provide direct impact load

\*\*Double hammer performed after thawing the parts to room temperature.

\*\*Fine mixture of sand, paper, plastic, mud and water in varied proportion

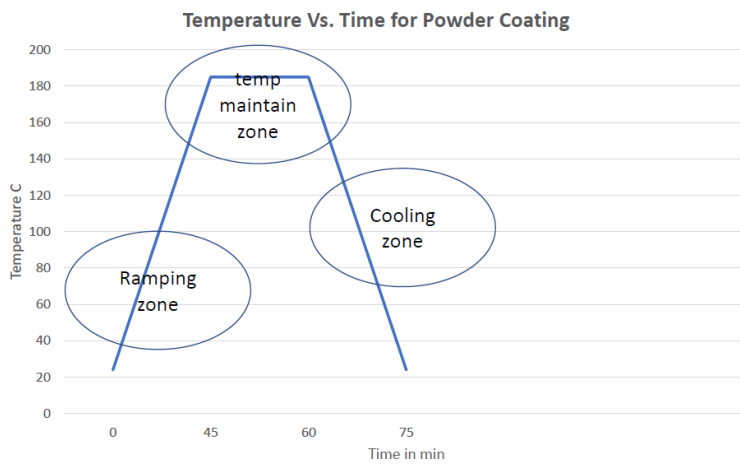
# Technical Data Sheet



## Powder Coating

EL-804PC also meets the tough requirement of powder coating industry. The product is formulated to provide an alternative to welding and fastening and develop high strength on metal structures such as stiffeners to panels prior to powder coating process.

Product must be allowed to cure sufficiently after application and before subjecting it to seven tank surface preparation. Powder coating cure schedule can be followed as per typical industrial practice or as indicated in the graph.



## Chemical Resistance

This product offers excellent chemical resistance to hydrocarbons, acids and bases and is slightly susceptible to polar solvents.

## Direction of application

Degrease and wipe off the surface to be bonded. The product can be applied using a manual or pneumatic dispenser. The bonding surfaces should be joined within the specified working time.

Static mixer & Dual Cartridge Dispenser is strongly recommended for perfect mixing and mixer selection can be done according to the desired bondline.

# Technical Data Sheet

## For 400ml Cartridge

Dispenser MIXPAC® DP-400-85-10 (Pneumatic)  
Dispenser MIXPAC® DM-400-10 (Manual)  
Dispenser COX® VBM 400 (Manual)  
Mixer MIXPAC® MFHX 08-24T (Part No.102476)  
Mixer MIXPAC®MFQX 08-24T (Part No.116039)



## For 50ml cartridge

Dispenser Mixpac® DS 51-10-00 (Part No.101929)  
Mixer MIXPAC®MBHX 05-16T (Part No.116476)  
Mixer MIXPAC®MBQX 05-16L (Part No.116063)



\*MIXPAC® & COX® are the registered brands of SULZER Ltd.

## **Storage & Handling**

EL-804PC must be ideally stored between 11°C to 24°C in closed containers. Tightly close the containers when not in use to avoid any contamination. No other special storage conditions are imperative. Continuous exposure above 24°C will reduce the shelf life.

Kindly refer to the MSDS (Material Safety Data Sheet) for safe handling. Allow for good ventilation and avoid skin contact while handling the product. Ketone or aromatic solvents can facilitate efficient cleaning of equipment or any spills. However, please exercise proper ventilation and flammability precautions while use of solvents. Once used, keep the containers closed. Keep out of the reach of children.

## **Packaging**

- 50ml S Flange dual cartridge
- 400ml dual cartridge

## **Do not use for specification purposes**

The values mentioned in this TDS are considered typical properties only. They are not intended to be used as a basis for preparing specifications. Please contact Elixir-India for assistance in establishing particular specifications

## **Disclaimer**

Elixir-India believes the technical advice provided by the company and the information contained herein is reliable and accurate. However, Elixir-India make no warranties, expressed or implied not should be inferred regarding the accuracy of the information. The user is responsible to competently test the product and determine the quality and suitability for their intended use. Elixir-India assumes no liability regarding the handling and use of this product