

**PALM**

**LABORATORIES**

**TECHNICAL DATA**

**TURBO FUSE METHYL FOR METALS  
(75-95 Viscosity)**

Palm Lab's Methyl Cyanoacrylate is a one component rapid bonding adhesive ideal for metal surfaces. TURBO FUSE METHYL's advanced formula is designed to polymerize instantly by absorbing surface moisture and is specifically formulated to bond various metals including aluminum, stainless steel, and copper, to itself and to a variety of materials including wood, balsa wood, rubber, plastics and leather. Applications include wiper blades, nameplates, gearshift indicators, aerospace parts, automotive and machinery parts, electronic components, transportation equipment, etc. Meets MLLA 46050 Type I Class II specification requirements.

**Part Numbers for this TDS:** 15-080Methyl, 30-080Methyl

**PHYSICAL PROPERTIES (Liquid State)**

Base compound	Methyl Cyanoacrylate
Appearance	Clear Liquid
Viscosity cP	75 to 95
Specific Gravity	1.05
Flash Point	176° F - 200° F (Tagliabue closed cup)
Shelf Life	1 Year
Soluble in Acetone, MEK, Amide, Methylene Chloride	

**PHYSICAL PROPERTIES (Cured State)**

Appearance	Clear-Hard
Gap Fill	0.20 mm
Service Temperature	-60° to 80° C
Tensile Shear Strength	13-20 n/mm <sup>2</sup>
Full Cure	24 hours
Melting Point	160 – 170° C

**MATERIAL SET UP TIME**

Aluminum to Aluminum	40 to 60 seconds
Stainless Steel to Stainless Steel	30 to 60 seconds
Copper to Copper	10 to 20 seconds
SBR to SBR	10 to 15 seconds
Steel to Steel	10 to 30 seconds
Steel to PVC	15 to 20 seconds
PVC to PVC	3 to 10 seconds

**SHEAR STRENGTH OF CURED MATERIALS  
ASTM D 1002/DIN 53283**

Grit Blasted Steel	> 20 N/mm <sup>2</sup>
Etched Aluminum	> 20 N/mm <sup>2</sup>
Stainless Steel	> 20 N/mm <sup>2</sup>
Copper	> 13 N/mm <sup>2</sup>
Polycarbonate	> 10 N/mm <sup>2</sup>
ABS	> 5 N/mm <sup>2</sup>

### OTHER PROPERTIES OF CURED MATERIALS

<u>Physical Properties:</u>		
Coefficient of thermal conductivity, ASTM C177, W.m <sup>-1</sup> k <sup>-1</sup>		0.01
Glass transition temperature, ASTM E228		120° C
Coefficient of thermal expansion, ASTM D696, K <sup>-1</sup>		100 x 10 <sup>-6</sup>
<u>Electrical Properties:</u>		
Dielectric strength, ASTM D149, kV/mm		25
Volume resistivity, ASTM D257, Ohm.cm		1 x 10 <sup>16</sup>
Dielectric constant, 25° C, ASTM D150		2.3

### CHEMICAL RESISTANT PROPERTIES

<u>Chemical</u>	<u>Temp.</u>	% Initial Strength Retained	
		<u>500 Hours</u>	<u>1000 Hours</u>
Isopropanol	22° C	85	85
Gasoline	22° C	80	75
Motor Oil	40° C	90	90
Mineral Spirit	22° C	90	90

#### Application Instructions:

- All surfaces must be clean, dry, dust and grease free. Lightly abrading surfaces immediately before bonding will achieve best results.
- If using an accelerator, apply to one component surface only. Apply thin film of adhesive to the other surface and bring pieces together immediately.
- When bonding "O" rings, cut a fresh surface onto each end of the rubber to gain the best possible strength.

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