

## EMS FORCE® MDF Kit

### ☆ General information

EMS FORCE® MDF Kit is a set of cyanoacrylate adhesive and activator specially formulated for fast bonding of metal, plastic, rubber and wood parts. The products are specifically formulated for sealing, retaining, locking and bonding of metal or metal plated assemblies.

Cyanoacrylate adhesives reach high bond strengths at room temperature without applying pressure. Curing rate can be enhanced by weak alkaline materials including trace amount of moisture on the surface of parts to be bonded. Since the adhesives have solvent-free feature, shrinkage of cured material is negligible. Also, solvent resistance is very good.

### 📄 Product description

EMS FORCE® MDF Kit is a general purpose, high viscosity, ethyl cyanoacrylate adhesive. It is formulated for high-strength, high-speed, bonding of leather, paper, wood, plastic, rubber and metal surfaces. Prevents waste of product during application owing to its high viscosity and controlled usage feature. Gives time to adjust substrates. Has excellent gap filling capability.

The product perfectly bonds absorbent and rough surfaces perfectly. Relies less on surface moisture for cure speed than standard cyanoacrylates. Provides non-brittle, flexible bonding. Does not require pressure or tools such as clamps, etc.

### Adhesive

Main constituent	:	Ethyl cyanoacrylate
Appearance (uncured)	:	Liquid
Colour	:	Colourless / Transparent
Viscosity	:	High
Strength	:	High

### Activator

Main constituent	:	Hexane
Appearance (uncured)	:	Aerosol
Colour	:	Colourless / Transparent
Application Temperature	:	+5 °C to +35 °C
Temperature Resistance	:	-20 °C to +70 °C

### 📏 Physical properties of uncured adhesive

Specific gravity	:	1.07
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TDS

## EMS FORCE<sup>®</sup> MDF Kit

Conditions: 22°C

Flash point Method: ASTM D56-05	:	85°C
Corrosivity	:	Non-corrosive
Gap filling	:	0.20 mm
Solvent content	:	0%
Viscosity Conditions: 22°C	:	1200-1600 cP



### Typical curing performance of adhesive

Various type of curing time of adhesive on several substrates are given as follows. Note that results can differ due to distance of bond gap, temperature and relative humidity.

Conditions : 22°C and 50% relative humidity

#### Clamp(handling) time

Material of specimen	Duration
Wood	<3 seconds
Rubber to rubber	<15 seconds
Plastic to plastic	<20 seconds
Metal to metal	<60 seconds

Average full curing time: 12 to 24 hours



### Typical properties of cured adhesive

Ultimate tensile strength ( $\sigma_U$ )	:	20.6 N/mm <sup>2</sup> (2990 psi)
Temperature range	:	-54°C to +82°C
Refractive index ( $n$ ) Conditions: 20°C	:	1.45 (similar to glass)
Specific heat Method: ISO 11357-4	:	0.37 kJ/(kg.K)



### Environmental resistance of cured adhesive

Environmental resistance of cured adhesive can be examined by referring values given table below.

Motor oils	:	Good resistance
Alcohols	:	Good resistance
Water	:	Moderate resistance
Acids and alkali	:	Moderate resistance for dilute solutions. Continued contact decrease half of strength.



### Directions for use

- Apply activator to one of the surfaces to be treated and wait for the surface to dry.

## TDS

# EMS FORCE® MDF Kit

- Apply a small amount of EMS FORCE® MDF Kit Adhesive to the other surface. It is recommended to apply only 1 dab per 3 cm<sup>2</sup>. Set time can vary based on the amount of glue and type of surface glued. Excess glue can cause delayed or failed bond.
- Press the two surfaces together for about 10–30 seconds.
- Wait 24 hours for a full cure.



### Packaging

Product	Bottles	Pieces in a box
Adhesive + Activator	200ml + 50gr	36
Adhesive + Activator	400ml + 100gr	25



### Storage and shelf life

Keep product in its original container at 22°C and avoid to contact with direct sunlight. Storage below 5°C and above 25°C can negatively affect product properties.

Material removed from its original container can be contaminated during usage which affects both adhesive performance and storage life. Therefore, do not return contaminated product to the original container.

Metsan cannot take any responsibility for product which has been contaminated or stored under conditions different than previously indicated.

Shelf life: 12 months at 5°C



### Health and safety

The product contains ethyl cyanoacrylate.

For further information, please consult Safety Data Sheet (SDS) before use.



### Disclaimer

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