

VM100 BLACK



Product Description

VuduGlu™ VM100 Black is a high strength, toughened methyl methacrylate structural adhesive or MMA Adhesive offering unbeatable bonding of composite materials and bonding of metal fasteners and substrates to composite materials. VM100 Black is specially formulated to offer the very best performance for demanding structural bonding and is highly recommended for carbon-to-carbon and carbon-to-metal assembly. The adhesive is black in colour and therefore leaves a discreet bond-line when bonding carbon fibre or other dark materials.

As well as carbon fibre/epoxy laminates, VM100 Black is also ideal for bonding a range of glass fibre (GRP) laminates made using a range of resin systems including epoxy, polyester and vinylester and also demanding metal-to-metal bonding.

VuduGlu™ VM100 Black's revolutionary adhesion system enables the adhesive to achieve class-leading bond strength onto a wide range of substrates without the need for surface primers or conditioners resulting in an adhesive with both very high mechanical strength and impact resistance which is also fast and easy to use too.

Typical Uses

- Carbon fibre to carbon fibre assembly (automotive/motorsport panels)
- GRP assembly (boat hulls, jet-skis etc.)
- Bonding fasteners to carbon fibre or other FRP laminates
- Bonding dissimilar metals for heavy transport
- General bonding for more demanding applications (sign making, architectural use, art installations etc.)

Compatibility

VM100 Black is suitable for bonding the following substrates:

- Epoxy CFRP / GRP / FRP
- Polyester CFRP / GRP / FRP
- Vinylester CFRP / GRP / FRP
- UPVC
- ABS
- Acrylic
- Polyurethane
- Aluminium
- Stainless Steel
- Mild Steel
- Galvanised/Zinc Coated Metals
- Wood
- Granite
- Marble

Key Features

- Easy to use
- Quick Cure Time
- Bonds Multiple Substrates
- High Bond Strength
- Methyl Methacrylate Chemistry
- 1:1 Mix Ratio (automatically delivered by twin tube dispenser pack)

How to Use

To ensure a good bond and a strong joint, it is essential to prepare the surface properly and follow the usage guidelines below:

- Ensure surfaces to be bonded are clean and degreased.
- 'Key' surfaces to be bonded using an abrasive paper to 120 grit or coarser.
- Remove any dust from the keying process and clean surface using Acetone or similar strong solvent.
- Particular care is needed on surfaces that may have release agent traces to ensure their removal.
- If using a static mixer nozzle, dispense and dispose of a small amount of adhesive before applying the adhesive to the surfaces to be bonded.
- Apply the adhesive to one surface and assemble components using clamps where necessary to hold parts in place during cure.
- Although VM100 Black will initially cure to a handable state in around 10-12 mins, allow at least 24hrs before putting the bonded component into service.

Curing Cycle

Once mixed at the 1:1 ratio the working time of the VM100 is the period when the adhesive remains fluid and is easily transferrable between two or more mating surfaces.

Temperature, volume and substrate have a direct effect on the length of this period as VuduGlu™ VM100 Black cures by an exothermic reaction. Higher temperatures and larger volumes speed the reaction causing a reduction in open and cure time. Lower temperatures and smaller volumes slow the reaction time extending both the open time and ultimate full cure time.

In typical conditions (10g at 20°C ambient), the open time is around 7 minutes and peak exotherm occurs around 12mins after initial mixing.

Uncured Properties

Property	Result
Resin	Methyl Methacrylate
Colour	Dark Grey/Black
Viscosity Brookfield T Bar	12000 - 150000 Cps
Appearance	Thixotropic Gel
Cure System	Exothermic
Open Time	7 minutes @20°C 10g Mass
Handling Strength Time	12 minutes @20°C 10g Mass
Specific Gravity Part A	0.96
Specific Gravity Part B	0.91

Cured Properties

The following tables detail the typical cured properties for VM100 Black:

Bond Strength by Substrate

Substrate	Result
Aluminium	20.4 Nmm ²
Stainless Steel	38.4 Nmm ²
Mild Steel	32.8 Nmm ²
GRP	Substrate Failure
ABS	Substrate Failure
Acrylic	Substrate Failure

All figures were tested to ASTM D1002 Lapshear and based on an average of over 16 tests.

Other Cured Properties

Property	Result
Tensile Strength ASTM D638	up to 30 Nmm ²
Gap Fill	4mm
Standard Temperature Range	-55°C - 120°C
Paint Bake Cycle Approval	20 minutes at 220°C
Aluminium Lapshear Following moist cataplastm 7 Days @70°C	26.7MPa
Peel Strength Aluminium	6 KN/m
Shore Hardness	75 Shore D

Packaging

VuduGlu™ VM100 Black is available in 25ml syringe, 50ml twin tube and 400ml twin tube packaging. 1 static mixer nozzle is included with each adhesive cartridge.

A dispenser gun is not required for the 25ml syringe but is required for the 50ml and 400ml twin tube packs. Dispenser guns are available to buy separately from Easy Composites.

We recommend the use of static mixer nozzles with all VuduGlu™ adhesives. Please see the table below to ensure you purchase the correct nozzle fitting type and dispenser gun.

	25ml syringe	50ml cartridge	400ml cartridge
Pack			
Dispenser			
Nozzle Type	TYPE 1 (50ml) 	TYPE 1 (50ml) 	TYPE 3 (400ml) 

Shelf Life and Storage

For maximum shelf-life, VM100 Black should be stored unopened in a dry, dark location. MMA type adhesives are very temperature sensitive and will degrade in higher temperatures. The ideal temperature to maximise shelf life of the VM100 is to store it refrigerated between 6°C and 12°C*. Stored in this way, the adhesive has a shelf life of 12 months from the date of manufacture. If continuously cool conditions are not available, then the shelf life will reduced according to the table below:

Storage Temperature °C	Shelf Life
6-12	12 Months
20	11 Months
28	45 Days
35	20 Days

*If stored cold, allow product to return to room temperature before using.

Disclaimer

This data is not to be used for specifications. Values listed are for typical properties and should not be considered minimum or maximum.

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