



## Automotive Aftermarket Division

# <<3M™51003 DMS General Purpose Body Filler

---

### 1) Part Numbers

**3M™51003** DMS Heavy General Purpose Body Filler

### 2) Description and end uses

**Premium Body Filler 51003: 276 ml two part cartridge system.  
50:1 mixing ratio filler to hardener**

3M 51003 is intended to be used as an automotive body repair material. This polyester filler is capable of repairing imperfections such as dents in steel, galvanized steel and aluminium, and as a finishing material over properly reinforced cracks in SMC and Fibreglass. 51002 Premium Body Filler is designed to be used with the 3M Dynamic Mixing System Applicator (PN 50600) and the 3M Dynamic Mixing System Nozzle (PN 50601). Its higher density makes it the ideal filler for larger repairs and deeper dents.

### 2) Physical Properties

3)

Container	Two Part Cartridge	
	Part A (Filler)	Part B (Hardener)
Base	Polyester resin with styrene monomer	Benzoyl Peroxide
Consistency	Viscous paste	Viscous paste
Density ( $g/cm^3$ )	1.8	1.2
Colour	(off) White	Blue



Effective: <<21<sup>st</sup> December 2011>>

Supersedes <<NEW>>

The following times have been determined with ambient air temperature

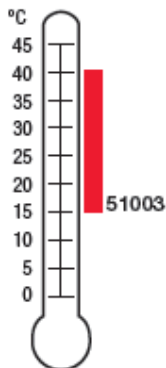
And substrate temperature at 15 to 40 degrees C and are

Considered typical values.

**WORK TIME:** 10 minutes @ 15 degrees C to 3 minutes @40 degrees C

**MIX NOZZLE DWELL TIME:** 8 mins @ 15 degrees C to 2 minutes @40 degrees C minutes

**SAND TIME:** 14 minutes @15 degrees C to 7 minutes @ 40 degrees C



#### 4) Directions for Use

##### 1-Preparation

Surfaces should be thoroughly de-greased and free from dirt and dust. Sand the damaged areas with a P80 abrasive disc. To remove any corrosion or broken paint, a suitable Bristle Disc or Fibre Disc should be used. Wipe dust away and clean the surface with Adhesive Cleaner.

Wear appropriate personal protective equipment when working with body filler.

Refer to the relevant MSDS. And 50600 DMS applicator user manual.

##### 2-Application method

- Installing the nozzle
  - Remove sealing cap from cartridge
  - Align the 3M™ Dynamic Mixing Nozzle with the cartridge outlets, making sure to position the large outlet (cartridge) with the large inlet (nozzle) and the small outlet (cartridge) with the small inlet (nozzle).
  - Press in until locking retainers engage mixing nozzle
  - Note: If the cartridge is placed onto a hard surface with force, the driving rod can be dislodged and become loose. It can be pressed and clicked back into



Effective: <<21<sup>st</sup> December 2011>>

Supersedes <<NEW>>

position by the simple use of a screw driver. Push the screwdriver through underneath the sealing cap and press the driving rod back in place

- Installing the cartridge
  - Position the cartridge with the larger diameter cylinder in the 11 o'clock position relative to the 3M Dynamic Mixing System Applicator.
  - Place the mounting flange end of the cartridge against the mounting plate of the applicator, making sure to align and insert the cartridge drive rod with the applicator drive socket, located in the centre of the applicator mounting plate.
  - Press the cartridge back against the mounting plate (this should occur without resistance if drive rod is aligned properly) and twist until the cartridge locks into place.
  
- Equalising the cartridge
  - Refer to the 3M Dynamic Mixing System Applicator manual for detailed instructions on applicator set up and safety information
  - Close down the regulator on the applicator into the fully off position
  - Attach an airline to the air inlet on the applicator
  - Open the regulator to obtain correct dispensing pressure (approximately 2 to 3 turns)
  - Using a disposable collection point, dispense a small amount of material by fully depressing the applicator trigger
  - Stop dispensing when a consistent colour is achieved.
  - Discard the very first 2-4 cm of filler bead from a new cartridge to allow initial equalisation, any further material is good to use.
  - Note: The initial extrusion contains both hardener and filler and due to the specific set-up of the cartridge, it will be a deep blue for the very first centimetre or two and become lighter thereafter.

=
  
- Dispensing techniques
  - Material may be dispensed directly onto the damaged area, or onto a non-porous surface, such as a spreader or a mixing board.
  - Proceed with application method (i.e. spreading) as desired.
  - You may continue to dispense material until the normal material curing process clogs the mixing nozzle – typically after approximately 2 minutes without depressing the trigger. If more repair material is desired after curing has occurred, remove and install a new nozzle.



Effective: <<21<sup>st</sup> December 2011>>      Supersedes <<NEW>>

- Maximum finished thickness should not exceed 10mm
- Recommended Application Techniques summary

	1-2 mm dent deepness repair		3-5 mm dent deepness repair	
Repair surface size	Filler repair Process	DMS advantage	Filler repair Process	DMS advantage
Small	DMS : 1 steps / FIC : 2 layers .	1 Layer + pinholes rework	DMS : 2 step / FIC : multi-layers	1 Layer at least + pinholes rework
Medium	DMS : 1 steps / FIC : 2 or 3 layers .	1 Layer at least + pinholes rework	DMS : 2 step / FIC : multi-layers	1 Layer at least + pinholes rework
Large	DMS : 1 step by section / FIC : multi-layers	1 Layer at least + pinholes rework	2 steps by section / FIC : multi-layers	1 Layer at least + pinholes rework

○ **NB : FIC = Filler In Can**

DMS 1 step process ( 1-2 mm dent deepness )	1: Sand to bare metal 1': for large repair only : Devide surface in medium size section (styling line by styling line ) 2: Apply thin coat direcly to the deepest damage 3: Immediatly apply on the spreader and spread across the whole repair 4: Continue to apply small amonts in order to build required thickness 5: Wait curing time / I.R. process according to manufacture recommendation 6: Sanding operation starting with P80( P120?) finished with P180
DMS 2 steps process (3-5 mm dent deepness )	1: Sand to bear metal 2: Fill first the deepest point of the dent 3: Immediatly apply on the spreader and spread across the whole repair 4: Continue to apply small amonts in order to expand the repair 5: Wait curing time / I.R. process according to manufacture recommendation 6: Sanding operation starting with P80/ P120 7: Apply a second layer 8: Wait curing time / I.R. process according to manufacture recommendation 9: Sanding operation starting with P80( P120?) finished with P180
FIC	1: Sand to bear metal 2: evaluate right among of filler 3: Mix filler / hardenner 4: Spread layer by layer in order to build required thikness (need curing and sanding steps between layers

**CAUTION:** Be sure to replace nozzles containing fully or semi cured material to prevent damage to cartridge or nozzle or personal injury. Dispose of uncured material in an approved receptacle.



Effective: <<21<sup>st</sup> December 2011>>      Supersedes <<NEW>>

USE OF LOW BUILD PRIMER MATERIALS: A stopper or glaze must be necessary should a filled area be over primed with a material that produces a film thickness of less than 100 microns.

### 3- **Infra Red Curing**

- Refer to and follow the manufacturer's instructions when using IR equipment to cure 3M 51002
- The following are typical figures provided for guidance
  - Short wave      4 min at full power
  - 4:20:70 ( 4 minutes total time : Temperature increase 20<sup>0</sup>C per minute : Maximum Temperature is 70<sup>0</sup>C)
  - Medium wave   5-10 min at full power
  - 0:00:00
- Distance from panel : Consult IR equipment manufacturers instructions
- 

### 4) **Storage**

12 months from original date of manufacture in the original sealed packaging between 5 and 25 °C

Refer to label for expiry date.

Any opened cartridge can be stored with the used nozzle on for a few days; be sure to put a fresh nozzle on before engaging the cartridge again in the applicator.

To eliminate equalisation restart waste, cartridges should be stored horizontally or vertically down (nozzle pointing downwards).

### 6) **Safety**

**3M 51003 is designed FOR PROFESSIONAL INDUSTRIAL USE ONLY.**

Read full instructions and material safety data sheet before use.

IMPORTANT: This product contains hazardous materials and therefore appropriate personal protective equipment should always be used. Please refer to the label and consult the material safety data sheet for full handling instructions and personal protection information. These are available via your stockist. The supplier disclaims any liability where the user does not wear recommended personal protective equipment.

### 7) **Disclaimer**



Effective: <<21<sup>st</sup> December 2011>>      Supersedes <<NEW>>

All statements, technical information and recommendations are based on tests we believe to be reliable but the accuracy or completeness thereof is not guaranteed. Please ensure before using our product that it is suitable for your intended use. All questions of reliability relating to this product are governed by the Terms of Sale subject, where applicable, to the prevailing law.

Automotive Aftermarket  
3M United Kingdom plc  
Phone: 0161 237 6391  
Fax: 0161 237 5911