



3M Tech Talk:

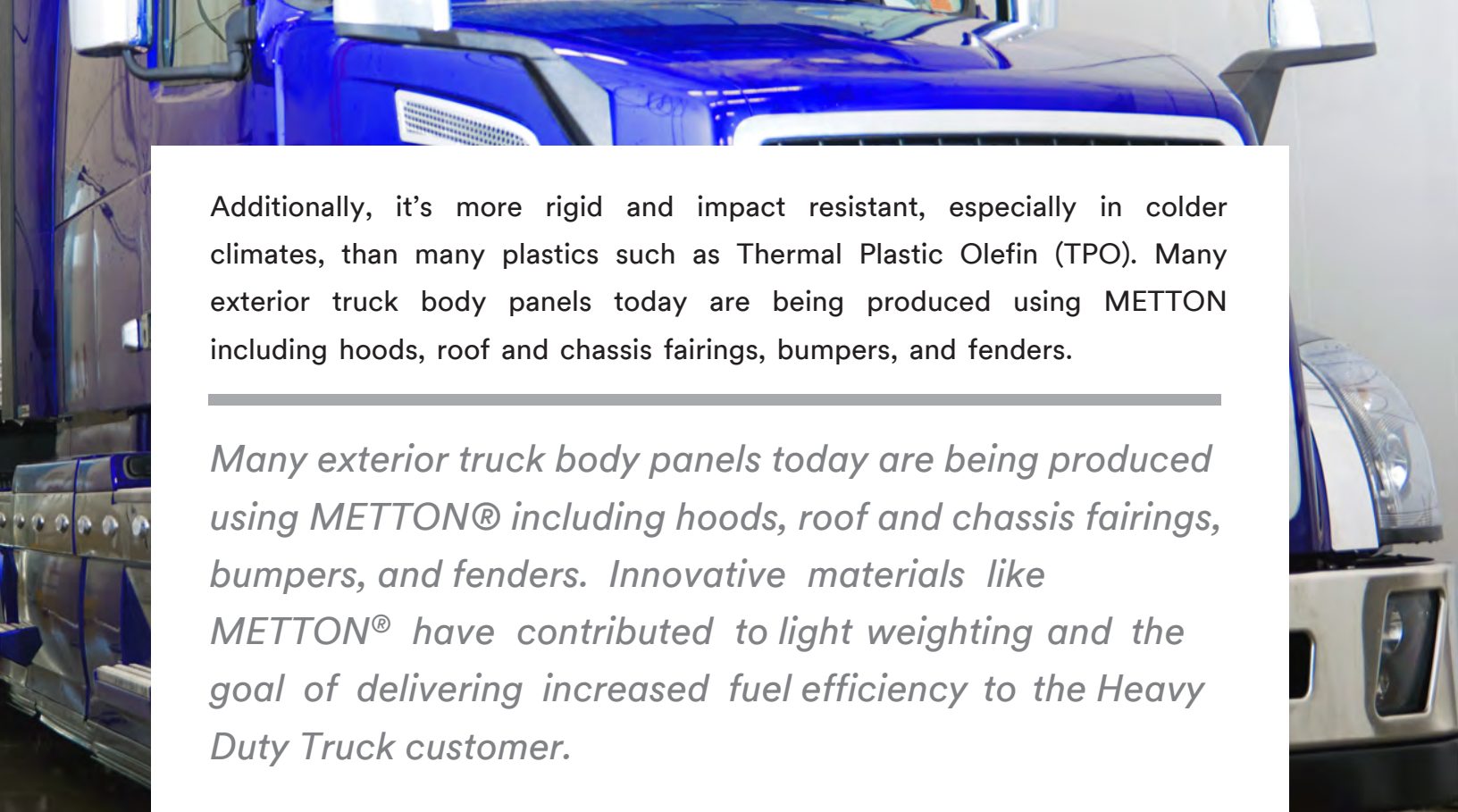
Metton[®] Identification and Repair

What is METTON[®] and where is it used?

Light-weighting is a process that is a high priority for Heavy Duty Truck manufacturers. Efforts to reduce vehicle weight are driven by Corporate Average Fuel Economy (CAFE) standards and competition among vehicle manufacturers. Innovative technologies and materials have contributed to the ultimate goal of delivering increased fuel efficiency to the Heavy Duty Truck customer.

One area that has received significant attention has been the weight of exterior body panels. Body panels have gotten lighter due to design, material, and manufacturing improvements over time. One material that has increased in use for exterior truck body panels is METTON[®] LMR. According to METTON America, "LMR (Liquid Molding Resin) is a tough and durable engineering plastic material used to produce large or thick molded parts for many diversified applications."

METTON is produced using a closed mold process which helps deliver more consistent parts with tighter tolerances, improves manufacturing cycle times, and enables increased design freedom compared to other materials and processes. This material is lighter than traditional fiberglass (FRP) and Sheet Molded Compound (SMC).



Additionally, it's more rigid and impact resistant, especially in colder climates, than many plastics such as Thermal Plastic Olefin (TPO). Many exterior truck body panels today are being produced using METTON including hoods, roof and chassis fairings, bumpers, and fenders.

Many exterior truck body panels today are being produced using METTON® including hoods, roof and chassis fairings, bumpers, and fenders. Innovative materials like METTON® have contributed to light weighting and the goal of delivering increased fuel efficiency to the Heavy Duty Truck customer.

Identification of METTON®

METTON® is black in color and is more rigid when compared to other plastics like TPO. When grinding or sanding during the repair process, METTON does not produce a cloud of airborne, itchy dust like FRP and SMC panels as it does not contain fiberglass fibers.



METTON® will grind and sand more evenly compared to other plastic materials. For example, METTON® doesn't smear and flow as much as TPO can during grinding and sanding operations. Another indication that you are working on METTON® is the very distinct, unique odor that is produced when grinding or sanding this material.

Repairing METTON®

Now that we know what METTON® is, how do we repair this material? 3M has developed a Standard Operating Procedure for a Backside Reinforcement Repair and a Cosmetic Repair for composite materials that includes FRP, SMC, and METTON®.



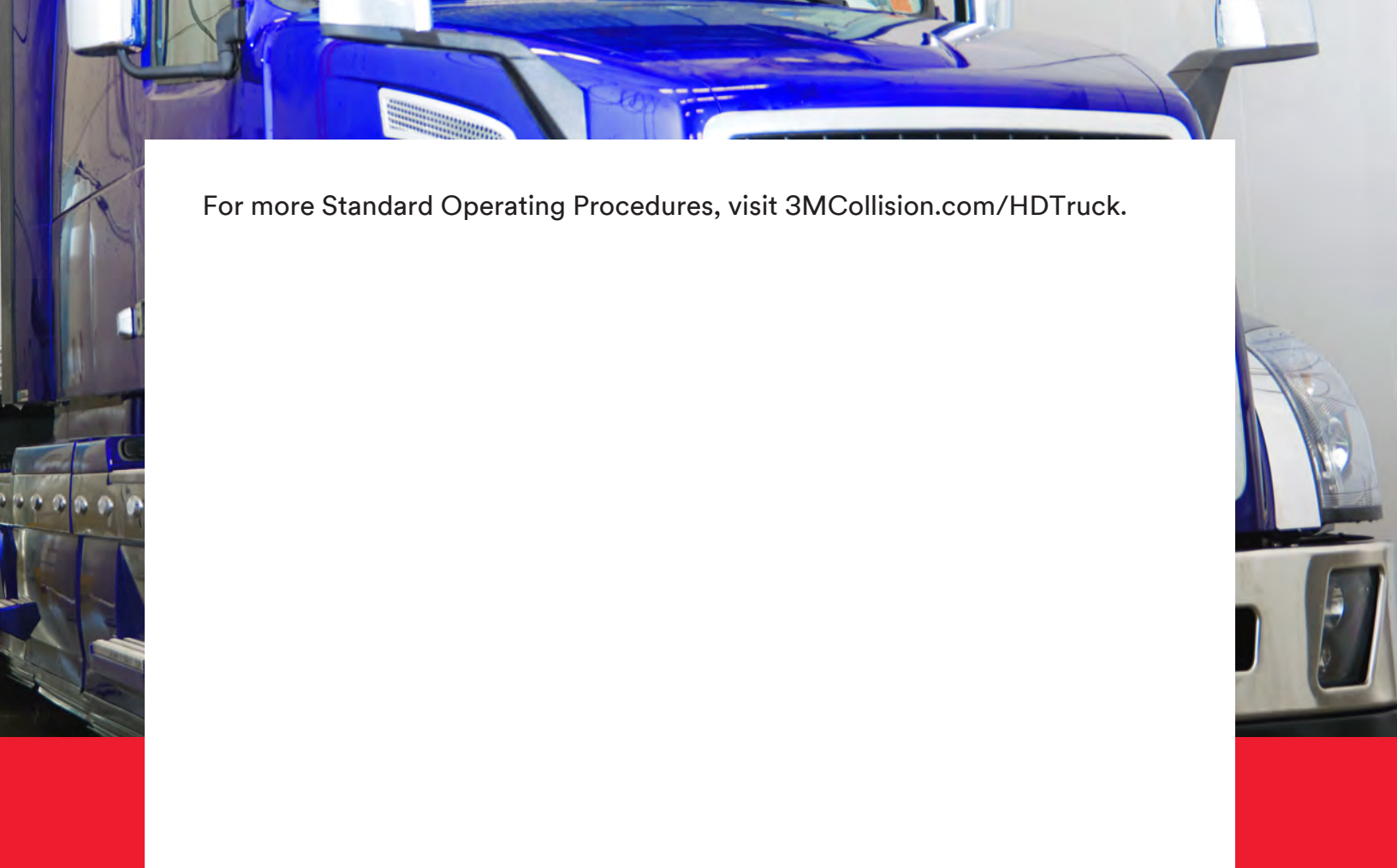
Repair procedures for METTON® are surprisingly similar to the repair processes body technicians use for SMC and other plastics. The most critical difference between repairing METTON® and SMC is the use of an Adhesion Promoter such as 3M™ Polyolefin Adhesion Promoter PN 05907. Adhesion Promoter is necessary to increase the bond strength between the repair adhesive and the surface of the METTON® part. This should be a standard practice when using adhesives on other plastics such as TPO and Polypropylene(PP) as well.

3M has 37 Heavy Duty Truck Standard Operating Procedures (SOPs). From metal, plastic, and composite repair, paint finishing, and truck clean-up, 3M has effective systems, products and repair processes for you. When repairing Heavy Duty Trucks or Commercial Vehicles, feel confident your repair is done professionally and efficiently using the 3M Standard Operating Procedures. These procedures will help you consistently produce quality, time-proven results for any of your collision repair needs. For more Standard Operating Procedures, visit 3MCollision.com/HDTtruck.

Cosmetic Repair (SMC, FRP, Composites)		Product List
1	Clean the Damaged Area Clean the repair area with soap and water, followed by a VOC compliant surface cleaner, making sure to minimize the exposure of damaged or exposed fibers to the cleaners. Thoroughly dry the part. DO NOT apply any other cleaners throughout the remainder of the repair procedure.	3M™ Car Wash Wash Concentrate, 1 gallon, PN 38879
2	Rough Grind Dish out the repair area with a grade 80 3M™ Flap. Remove dust on a paper grip transfer mat at a lower speed. Finish skuffing the repair area using a P80 abrasive disc on a DA.	3M™ Scuffing Adhesive Abrasive, 18" x 6" x 1/8", PN 38927
3	Featheredge Finish the dish out process using a P100 abrasive disc and feather wall into the surrounding area. Skuff off the repair area with clean, dry air and a clean cloth.	3M™ Scuffing Adhesive Abrasive Feather Wall, 8" x 6" x 1/8", PN 38928
4	Adhesion Promoter SMC and Fiberglass do not require an adhesion promoter. If repairing METTON® Liquid Molding Resin, apply a light, consistent coat of 3M™ Polyolefin Adhesion Promoter, to the repair area. Allow adhesion promoter to dry for 5 minutes before applying the substrate prep.	3M™ Polyolefin Adhesion Promoter, PN 05907
5	Apply Following product instructions, apply a light coat of adhesive/filler to the repair area to ensure good contact with the composite. Continue to build until the repair area is slightly higher than the surrounding area. For best results heat set at 150°F for 15 minutes.	3M™ Rapid Form Repair, 800g, PN 05278
6	Rough Sand and Shape Filler Rough shape the filler once it has solidified using a DA to a hand block with a P80 abrasive. Apply 3M™ Dry Guide Coat between sanding steps to highlight imperfections.	3M™ Dry Guide Coat, PN 05889
7	Final Sand and Inspect Final DA or hand sand the filler with P100 abrasive and feather into the surrounding composite and paint. Apply 3M™ Dry Guide Coat between sanding steps to highlight imperfections. Finish sanding with a P200 abrasive sanding until into the surrounding surface. Note: Contact your sales representative for final sand preparation.	3M™ Dry Guide Coat, PN 05889

Visit 3MCollision.com for more SOPs and videos

There are, of course, many factors and variables that can affect an individual repair, so the technician and repair facility need to evaluate each specific application and repair process, including relevant vehicle, part and OEM guidelines, and determine what is appropriate for that repair.



For more Standard Operating Procedures, visit [3MCollision.com/HDTruck](https://www.3M.com/HDTruck).

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