3 AIRCRAFT STRUCTURE SOLUTION

SOLUTION PROFILE - Aircraft Sealant Removal — February 2003

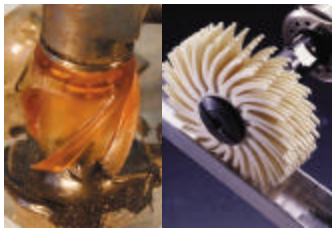
Shop Task/ Processes: Structure, sheet metal, fuel systems, and landing gear shops

Key Issues: The current labor intensive and time consuming method for removing sealants using plastic and/or metal scrapers are things of the past. 3M™ Sealant Removal (SR) Cutters and 3M™ Radial Bristle Discs replace the plastic and metal scrapers as tools for removing sealants.

Application Attributes: SR cutters and radial bristle discs remove sealants and clean the surfaces, even in tight spaces and around fasteners, and minimizes the chance of damaging the substrate, which avoids necessary paint and/or primer repairs.



PRODUCT SOLUTION



Radial Bristle Discs
Radial Bristle Disc 2”x3/8” (48011-30097-9)
Radial Bristle Disc 3”x3/8” (48011-30098-6)
3M™ Roloc™ plus holder or plastic buttons (red) (48011-14915-8)

SR Cutters
SR Cutter No. 3 0.40” OD (48011-30096-2)
SR Cutter No. 8 0.83” OD (48011-30095-5)
3M™ Mandrel #990 (48011-15012-3)

Equipment/Related Products: Radial bristle discs mount on the mandrel #990 in a straight shaft or right angle pneumatic tool, preferably rated at 10,000-12,000 RPM. For applications requiring plastic buttons, Roloc plus holder can be used for mounting radial bristle discs. SR cutters use a pneumatic right-angle drill with 1/4” -28 female threads with recommended speed of 850-1,200 RPM.

KEY BENEFITS

Remove sealants without damaging substrate surfaces: SR cutters and radial bristle discs remove sealants with minimal or no abrasion to paints, primers or metal on aircraft.

Conforming to hard-to-reach areas: Radial bristle discs have an unique bristle pattern that provides conformability and accesses hard-to-reach areas that are difficult to scrape.

Quick sealant removal and cleaning system: SR cutters and radial bristle discs provide an unique system for removing and cleaning sealants quickly prior to final solvent wipedown.

Less rework: SR cutters and radial bristle discs are made of non-abrasive materials that minimize the possibility of damage to aircraft paint or metal.

KEY ADVANTAGES

No hand scraping: SR cutters and radial bristle discs are used with commercially available pneumatic die grinders and drills that make sealant removal easy.

No chemicals: saves time: SR cutters and radial bristle discs take less time to complete the job by eliminating many factors including rework of damaged substrates, sharpening and re-sharpening of plastic scrapers, and waiting for chemical soaking.

No expensive blaster or hydro system: SR cutters and radial bristle discs are economical, and they minimize hazards.

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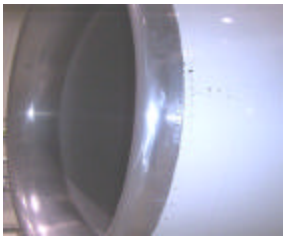
RELATED GOVERNMENT REGULATORY, INDUSTRY SPECIFICATION AND EXPERIENCE	
Military	Authorization to use is pending final approval and publishing in USAF T.O.1-1-8, T.O.1-1-691 and T.O.1-1-3. The products are being evaluated for approval and inclusion in the Navy 509 manual.
OEM Approval	No specification required. May require engineering authorization.
MRO Approval	No specification required. May require engineering authorization.
Industry	3M™ Sealant Removal (SR) radial products contain a solid ultrahigh molecular weight silicone ingredient. Third-party peel testing comparable to MIL-PRF-81733D peel tests indicate no reduction in sealant adhesion following recommended use of radial bristle discs. Test report is available upon request. SR cutters contain no silicones or mold release agents.

SOLUTIONS FOR AIRCRAFT APPLICATION ISSUES

SR radial products reduce time spent removing typical aircraft sealants such as polysulfide, RTV, silicone, polyurethane, polythiolether in exterior access panels and seams, and the interior and exterior of engine nacelle and wing structures.

Eliminates labor intensive sealant removal by hand.

Exterior access panels and skin seams



Interior and exterior engine nacelle

Interior and exterior wing structure

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-235-AERO (1-800-235-2376). Address correspondence to: 3M Aerospace, 3M Center, Building 220-9W-14, St. Paul, MN 55144-1000. If you are outside of the US, please contact your nearest 3M office or branch.

Important Notices

3M MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of application. Please remember that many factors can affect the use and performance of a 3M product in a particular application. The materials to be bonded with the product, the surface preparation of those materials, the product selected for use, the conditions in which the product is used, and the time and environmental conditions in which the product is expected to perform are among the many factors that can affect the use and performance of a 3M product. Given the variety of factors that can affect the use and performance of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

Limitation of Remedies And Liability

If the 3M product is proved to be defective, THE EXCLUSIVE REMEDY, AT 3M'S OPTION, SHALL BE TO REFUND THE PURCHASE PRICE OF OR TO REPAIR OR REPLACE THE DEFECTIVE 3M PRODUCT. 3M shall not otherwise be liable for loss or damages, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including, but not limited to, contract, negligence, warranty, or strict liability.

For Additional Product Safety and Health Information, see the Material Safety Datasheet

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