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**Product Selector Guide
for the Aerospace Industry**



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NORTH AMERICA

Henkel Corporation

Aerospace
P. O. Box 312
2850 Willow Pass Road
Bay Point, CA 94565
USA
Tel: 925.458.8000
Fax: 925.458.8030

Henkel Corporation

Aerospace
32100 Stephenson Hwy.
Madison Heights, MI 48071
USA
Tel: 248.583.9300
Fax: 248.585.2896

Henkel Canada Corporation

Aerospace
2225 Meadowpine Blvd.
Mississauga, Ontario
Canada L5N 7P2
Tel: 905.814.6511
Fax: 905.814.6522

EUROPE

Henkel France

82, rue de Maubec
31300 Toulouse
France
Tel: +33.5.34.36.40.60
Fax: +33.5.34.36.40.69

Henkel Netherlands

Aerospace
Astronaut 36
3824 MJ Amersfoort
The Netherlands
Tel: +31.33.451.1720
Fax: +31.33.461.4854

Henkel France

Buoparc-Batiment B,
3 Allée Emile Reynaud
F-77200 Torcy
Tel: +33.1.6017.0202
Fax: +33.1.6017.3291

Henkel Oberflächentechnik GmbH - Germany

Henkelstraße 67
D-40589 Düsseldorf
Tel: +49.211.797.0
Fax: + 49.211.798.0

Henkel Central Eastern Europe GmbH - Austria

Erdbergstraße 29
A-1030 Wien
Tel: +43.1.711.040
Fax: +43.1.71104.2534

ASIA

Henkel Asia-Pacific Ltd.

807-810, 8/F
Island Place Tower
510 King's Road
North Point, Hong Kong
Tel: +852.2233.0108
Fax: +852.2827.0525



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The aerospace group of Henkel develops structural adhesives and metal and composite surfacing treatments that serve the aircraft OEM and MRO industries. Henkel invests heavily in R&D and product support and is a leader in these industries. Innovative materials provide our customers with practical, economic and performance benefits.

Our key product brands are:

- Hysol® Structural Adhesives
- Frekote® Mold Release Systems
- Turco® Surface Treatments
- Alodine® Conversion Coatings

OUR ADHESIVE SYSTEMS INCLUDE:

Paste Adhesives and Specialty Resins

Hysol® one- and two-part epoxy paste adhesive systems for potting, bonding, fairing, and repair; moldable plastic shim; matrix resins; and specialty resins for resin transfer molding, wet lay-up, and repair. Our current developmental products include VARTM, RTM and RFI materials based upon Henkel's new Epsilon chemistry. This new chemistry, based upon benzoxazine chemistry, is room temperature stable and has high Tg, even under wet conditioning.

Film Adhesives and Primers

Hysol® film adhesives and corrosion-inhibiting low VOC primers for metal and composite bonding; engine nacelle bonding; and honeycomb applications, such as control surfaces, wing flaps, engine slats, leading edges, and wing-to-body fairings. Nitrile phenolic systems provide excellent chemical and fuel resistance.

Core Splice Adhesives

Extensive product selection of foaming core splice adhesives; controlled expansion; excellent slump resistance; dual cure capabilities; low exotherm properties; closed cell technology; and extrudable versions are available.

Syntactic Products

SynSpand® closed-cell expanding syntactic films feature custom density-to-strength ratios in honeycomb core fill and core splice, resulting in lower costs of co-cure applications by eliminating secondary manufacturing processes.

SynCore® syntactic films for lightweight composite designs. Ideal for edge close-out and composite sandwich structure. Available in shaped form for custom designs.

SynSkin® composite surfacing films for flawless off-tool composite surface and reduction of surface preparation steps prior to painting. Available with metallic screens/foils for composite lightning strike protection.

Mold Release Coatings

Frekote® semi-permanent release coatings, the standard in mold release agents for composite and metal tool surfaces. Dependable release, ease of application, high gloss finish, minimal mold build-up, and maximum releases per application. Our newest Frekote® product is water-based and low VOC.



OUR SURFACE TREATMENT SYSTEMS INCLUDE:

Metal Process Line Cleaners

Wide array of neutral, alkaline or acid process line cleaners to fit the demanding requirements of the aerospace industry. Designed for either multi-metal or specific substrates to meet requirements of OEM customers. May be used in immersion, spray or brush applications. Extensive line of exterior aircraft cleaners meeting comprehensive OEM and military specifications.

Etchants and Deoxidizers

Latest technology in etchants and deoxidizers used prior to conversion coating, anodizing or chemical milling. OEM approvals are key to the selection of appropriate process line chemistries. All Henkel products are OEM specified.

Conversion Coatings

Alodine® conversion coatings for light metals, such as aluminum, magnesium and titanium. Henkel is the industry leader in conversion coating technologies, with traditional industry standard products, such as Alodine® 1200S™, as well as alternative non-chrome solutions, such as Alodine® 5700™ or Alodine® T-5900™.

Jet Engine Chemistries

Henkel produces all process chemistries for the overhaul of aircraft engines and land based compressors. Simplified processes meet OEM standard practices. Process solutions for both hot and cold sections. Designed to remove the toughest soils and scales, and provide for efficient NDT evaluation. New "GL" (global) product line offers Henkel products and quality around the world.

Compressor wash products provide on-wing cleaning solutions for improved engine performance and reduced fuel consumption.

Accessory Shops, Removed Components, Flap and Wheel Well Cleaners

Engineered solutions for the industry's most demanding requirements include paint strippers, scale removers, dinol remover, wax removers and general application cleaners. Extensive line of products for cleaning aircraft components and accessory parts, flaps, wheel wells, and wheel and brake assemblies.

Paint Strippers, Maskants, Machine and Grinding Coolants

Extensive line of environmentally advantaged paint strippers for use in depaint of aircraft and aircraft parts. NESHAP compliant thixotropic strippers are designed to cling to vertical surfaces and improve paint removal efficiency. Dual phase immersion paint strippers utilize a thin seal layer to prevent evaporation and reduce consumption of key stripping components.

Turco® 2K maskants provide one-pass coatings that can be processed within minutes of application, eliminating the need for multiple coats and extensive ventilation and solvent recovery equipment.

Multan® biostable cutting and grinding fluids for metalworking are designed for substrates ranging from aluminum to exotic steel and titanium alloys. No tank-side additions of biocide or EP additives are necessary. Multan® products improve tool life and provide additional operational savings over competitor products.

OUR SURFACE TREATMENT SYSTEMS INCLUDE COMPLETE PROCESS SOLUTIONS:

Aircraft Depaint / Repaint Systems

Paint Strippers

- Turco® 1270-6™
- Turco® 5351™ (T-5469™)
- Turco® 6776-LO™
- Turco® 6776™ Thin
- Turco® 6813-E™
- Turco® 6813-ED™
- Turco® 6877™
- Turco® 6881™
- Turco® EA Stripper 6930™

Cleaners

- Turco® 5948-DPM™
- Turco® 5948-R™
- Turco® Aerowash®

Corrosion Removers

- Turco® Alumiprep® 33™
- Turco® Metal Glo #6
- Turco® Metal Glo FF (Concentrate)
- Turco® Metal Glo FF RTU
- Turco® WO #1™

Conversion Coatings

- Alodine® 120™ Brush Kit
- Alodine® 600™
- Alodine® 600™ RTU
- Alodine® 871™ Touch-N-Prep®
- Alodine® 1000™ RTU
- Alodine® 1132™ Touch-N-Prep®
- Alodine® 1200S™
- Alodine® 1201™

Conversion Coatings (cont.)

- Alodine® 1500™
- Alodine® 1600™
- Alodine® 5200™
- Alodine® 5700™
- Alodine® T 5900™
- Alodine® T 5900™ Toner
- Alodine® T 5900™ RTU
- Alodine® Magnesium Treatment Kit

Jet Engine Overhaul Processes

Alkaline Process

- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® 4338 L™
- Turco® 5948-DPM™
- Turco® 5948-R™
- Turco® Liquid Sprayeze NP-LT™
- Turco® Rust Bloc

Alkaline / Acid Process

- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® 4338-L™
- Turco® 4409™
- Turco® 5948-DPM™
- Turco® Scale Gon 5™
- Turco® Scale Gon 7™
- Turco® Rust Bloc

Cleaners

- Ridoline® 298™
- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® 4215 NC-LT™
- Turco® 4460-BK™
- Turco® 5578-L™
- Turco® 5578-AL™
- Turco® 5578-GL™
- Turco® 6751-L™
- Turco® 6780™
- Turco® 6849™

Deoxidizers

- Turco® Aldox® V™
- Turco® Deoxalume® 2310™
- Turco® Turco® 6™/16™ Deoxidizer

Exhaust Track Remover

- Turco® 5805™

Exterior Cleaners

- Turco® 5948-DPM™
- Turco® 5948-R™
- Turco® Aerowash®
- Turco® Air-Tec #23™

Flap and Wheel Well Cleaner

- Turco® 5948-DPM™ Thick

Bearing Cleaning Process

- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® Aquasorb

Compressor Washes

- Turco® 5884™
- Turco® 6783™ Series

Thrust Reverser Cleaner

- Turco® 5805™
- Turco® 5948-DPM™ Thick

Paint and Carbon Removers

- Turco® 5668™
- Turco® 6776™ Thin
- Turco® 9045-6™

Cleaners (cont.)

- Turco® Altrex® 24™
- Turco® Ridoline® 4355™
- Turco® Vitro-Klene

Etchants/Brighteners

- Aluminux® Etch L™
- Turco® Alumiprep® 33™
- Turco® Metal Glo #6™
- Turco® Metal Glo FF (Concentrate)
- Turco® Metal Glo FF RTU
- Turco® Mil Etch®

Deoxidizers (cont.)

- Turco® Liquid Smut-Go® NC
- Turco® Nitradd (T-4104™)

Interior Cleaners

- Turco® 5948-DPM™

Landing Gear Cleaners

- Turco® 5668™
- Turco® 5948-DPM™ Thick

Wheel and Brake Cleaners

- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® 5668™

General Purpose Cleaning

- Turco® 5948-DPM™
- Turco® 5948-DPM™ Thick
- Turco® Liquid Sprayeze NP-LT™
- Turco® Rust Bloc

Titanium Cleaners

- Turco® T-4181L™
(Liquid Alkaline Rust Remover)
- Turco® Vitro-Klene

Plater's Wax Remover

- Turco® 6802™

Etchants/Brighteners (cont.)

- Turco® Nova EC-202 L™
- Turco® WO #1™

Deoxidizers

- Turco® Aldox® V™
- Turco® Deoxalume® 2310™
- Turco® Turco® 6™/16™ Deoxidizer
- Turco® Liquid Smut-Go® NC™
- Turco® Nitradd (T-4104™)

Maskants

- Turcoform 540R™ Maskant
- Turcoform 5580G™ Maskant

Wheel and Brake Cleaners (cont.)

- Turco® 6751-L™
- Turco® Aviation
- Turco® Liquid Sprayeze NP-LT™
- Turco® Rust Bloc

Wipe Cleaners

- Turco® 4460-BK™
- Turco® 6780™

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| RTM RESINS | SERVICE TEMPERATURE | POT LIFE (MINUTES) | PAGES 8-9 |
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| Hyso [®] EA 9150™ Resin | 250°F/121°C | 480 | |
| TOUGH HIGH STRAIN PASTES | SERVICE TEMPERATURE | BELL PEEL (77°F/25°C) | PAGES 8-9 |
| Hyso [®] EA 9309.3NA™ | 180°F/82°C | 75 (lb/in)/335 (N/25mm) | |
| Hyso [®] EA 9313™ | 120°F/49°C | 50 (lb/in)/225 (N/25mm) | |
| Hyso [®] EA 9320NA™ | >180°F/82°C | 35 (lb/in)/150 (N/25mm) | |
| Hyso [®] EA 9323™ | 250°F/121°C | 4 (lb/in)/17.8 (N/25mm) | |
| Hyso [®] EA 9330™ | 180°F/82°C | 60 (lb/in)/265 (N/25mm) | |
| Hyso [®] EA 9330.3™ | 180°F/82°C | 60 (lb/in)/265 (N/25mm) | |
| Hyso [®] EA 9346.5™ | 300°F/149°C | 60 (lb/in)/265 (N/25mm) | |
| Hyso [®] EA 9359.3™ | 200°F/93°C | 75 (lb/in)/335 (N/25mm) | |
| Hyso [®] EA 9360™ | >225°F/107°C | 60 (lb/in)/265 (N/25mm) | |
| Hyso [®] EA 9371™ | 180°F/82°C | 15 (lb/in)/70 (N/25mm) | |
| Hyso [®] EA 9380™ | 250°F/121°C | 50 (lb/in)/220 (N/25mm) | |
| HIGH TEMPERATURE FILLED PASTES | SERVICE TEMPERATURE | POT LIFE (MINUTES) | PAGES 8-11 |
| Hyso [®] EA 934NA™ | 300°F/149°C | 40 | |
| Hyso [®] EA 9321™ | 250°F/121°C | 40 | |
| Hyso [®] EA 9394™ | 350°F/177°C | 100 | |
| Hyso [®] EA 9394/C-2™ | 450°F/232°C | 480 | |
| Hyso [®] EA 9395™ | 350°F/177°C | 100 | |
| LIQUID SHIMS | SERVICE TEMPERATURE | POT LIFE (MINUTES) | PAGES 8-11 |
| Hyso [®] EA 934NA™ | 300°F/149°C | 40 | |
| Hyso [®] EA 9360™ | >225°F/107°C | 40 | |
| Hyso [®] EA 9377™ | >200°F/93°C | 60 | |
| Hyso [®] EA 9394™ | 350°F/177°C | 100 | |
| Hyso [®] EA 9394.2™ | 225°F/107°C | 15 | |
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| Hyso [®] EA 956™ | 77°F/25°C | 30 | |
| Hyso [®] EA 9390™ | 200°F/93°C | 120 | |
| Hyso [®] EA 9396™ | 77°F/25°C | 75 | |
| Hyso [®] EA 9396/C-2™ | 200°F/93°C | 480 | |
| SYNTACTICS AND LOW-DENSITY PASTES | SERVICE TEMPERATURE | DENSITY | PAGES 8-11 |
| Hyso [®] EA 960F™ | 160°F/71°C | N/A | |
| Hyso [®] EA 9396.6MD™ | 300°F/149°C | 37 (pcf)/0.60 (g/cc) | |
| Hyso [®] EA 9815™ | 250°F/121°C | N/A | |
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| Mold Releases | | | |
| METAL BONDING FILMS | SERVICE TEMPERATURE | HONEYCOMB CLIMBING DRUM PEEL | PAGES 12-13 |
| Hyso [®] EA 9628™ | 250°F/121°C | 18 (in•lb/in)/80 (m•N/m) | |
| Hyso [®] EA 9628H™ | 250°F/121°C | 20 (in•lb/in)/90 (m•N/m) | |
| Hyso [®] EA 9658™ | 350°F/177°C | 20 (in•lb/in)/50 (m•N/m) | |
| Hyso [®] EA 9686™ | 300°F/149°C | 17 (in•lb/in)/76 (m•N/m) | |
| Hyso [®] EA 9696™ | 250°F/121°C | 25 (in•lb/in)/110 (m•N/m) | |
| Hyso [®] PL 737™ | 350°F/177°C | N/A | |
| Hyso [®] PL 777-1FR™ | 300°F/149°C | N/A | |
| COMPOSITE BONDING FILMS | SERVICE TEMPERATURE | OUTTIME (DAYS @ 77°F/25°C) | PAGES 12-13 |
| Hyso [®] EA 9695™ | >300°F/149°C | 90 | |
| Hyso [®] PL 795™ | 350°F/177°C | 100 | |
| Hyso [®] PL 795-1™ | 350°F/177°C | 100 | |
| Hyso [®] PL 7000™ | 300°F/149°C | 30 | |
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| Hyso [®] EA 9657™ | 400°F/204°C | 15 | |
| Hyso [®] EA 9658™ | 350°F/177°C | 10 | |
| Hyso [®] EA 9673™ (BMI) | 550°F/288°C | 30 | |
| Hyso [®] EA 9689™ | 420°F/216°C | 10 | |
| Hyso [®] PL 780-1™ | 350°F/177°C | 10 | |
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| Hyso [®] EA 9833.1™ (BMI) | 450°F/232°C | 2-3x | |
| Hyso [®] MA 557™ | 350°F/177°C | 2.1-2.2x | |
| Hyso [®] MA 562™ | 350°F/177°C | 2-3.5x | |
| Hyso [®] MA 562S™ | 350°F/177°C | 2-3x | |
| Hyso [®] MA 562SFR™ | 350°F/177°C | 2-3x | |
| Hyso [®] PL 460™ | 350°F/177°C | 2-3x | |
| SynSpand [®] 9899CF™ | 350°F/177°C | 1-2x | |
| NON-EXPANDING SYNTACTIC FILMS | SERVICE TEMPERATURE | DENSITY | PAGES 16-17 |
| SynCore [®] 9823.1™ | 250°F/121°C | 42 (pcf)/0.67 (g/cc) | |
| SynCore [®] 9872.1™ | 350°F/177°C | 42 (pcf)/0.67 (g/cc) | |

| LEGEND | METAL AND HONEYCOMB ASSEMBLY |
|--------|------------------------------|
| | COMPOSITE ASSEMBLY |
| | HIGH TEMPERATURE ASSEMBLY |
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|--|--|---|-------------|
| SynSpand [®] 9899™ | 350°F/177°C | 8-25 (pcf)/0.12-0.40 (g/cc) | |
| SynSpand [®] 9899CF™ | 350°F/177°C | 18-35 (pcf)/0.29-0.56 (g/cc) | |
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| SynSpand [®] EA 9890™ | 180°F/82°C | 15 | |
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| Turco [®] 5578-L™ | Turco [®] 5578-GL™ | Turco [®] 5948-DPM™ | |
| Turco [®] 5948-R™ | Turco [®] 6751-L™ | Turco [®] 6780™ | |
| Turco [®] 6849™ | Turco [®] Vitro-Klene | | |
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| Turco [®] Scale Gon 5™ | | Turco [®] Scale Gon 7™ | |
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| Alodine [®] 1500™ | Alodine [®] 1600™ | Alodine [®] 1600™ Additive | |
| Alodine [®] 5200™ | Alodine [®] 5700™ | Alodine [®] Magnesium Treatment Kit | |
| Alodine [®] T 5900™ | Alodine [®] T 5900™ RTU | Alodine [®] 871™ Touch-N-Prep [®] Coating | |
| Alodine [®] 1132™ Touch-N-Prep [®] Coating | | | |
| LANDING GEAR | | | |
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| Turco [®] 6877™ | Turco [®] 6881™ | Turco [®] 6930™ EA Stripper | |
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| Multan [®] 5500™ | Multan [®] 3105™ | Multan [®] B-400™ | PAGES 30-31 |
| Multan [®] B-451™ | Multan [®] CR 26™ | | |

* The above list represents our most common products. Additional products are featured on our website at www.henkelna.com/aerospace.

ADHESIVE SYSTEMS

Paste Adhesives and Specialty Resins

We have experts available to design and install meter mix operations.
Call Henkel for customized dispensing equipment or pre-measured packaging.
See page 14 for more details.

| Product | Applications | | | | | | | | | | Characteristics | | | | Mechanical Properties | | | | Bulk Properties | | | | | Handling | | | | Description | | |
|------------------------|--------------|-------------------|--------------------------|-------------------|--------------------|-----------|-------------|--------------------|---------------------|-----------------------------|-----------------|-----------------------------|-------------|-------------------------|-----------------------|--------------------------------------|-------------------|-------------|-----------------|--|---|-----------------------------------|--|---|----------------------------------|--------------------------|--------------------|-----------------------------|------------------------------------|--|
| | Potting | Structural Repair | Low Viscosity Wet Lay-up | Composite Bonding | High Peel Strength | Syntactic | Liquid Shim | 180°F/82°C Service | 300°F/149°C Service | Improved Hot/Wet Properties | Toughened | Service Temperature (°F/°C) | Consistency | Form (1 part or 2 part) | Peel Strength | Bell Peel 77°F (lb/in)/25°C (N/25mm) | Tensile Lap Shear | | | Tensile Strength @ 77°F (psi)/25°C (MPa) | Tensile Modulus @ 77°F (ksi)/25°C (MPa) | Elongation @ 77°F/25°C % at break | Compressive Strength @ 77°F (psi)/25°C (MPa) | Compressive Modulus @ 77°F (ksi)/25°C (MPa) | Mix Ratio Weight (Part A/Part B) | Cure Temperature (°F/°C) | Cure Time | Storage Temperature (°F/°C) | Pot Life (minutes/lb)/(minutes/kg) | |
| Hysol® EA 934NA™ | • | • | | | | | • | • | | | 300/149 | Thixotropic | 2 | Nil | — | 2800/19.3 | 3100/21.4 | 2000/13.8 | | 6200/42.8 | 647/4450 | 1.2 | 13500/93.1 | 367/2530 | 100:33 | 77/25 200/93 | 5-7 days 1 hour | 40/4 | 40/1 40/.5 | Cures at 77°F/25°C, possesses superior strength to 300°F/149°C. Ideal for potting, filling, fairing and shim applications. |
| Hysol® EA 956™ | | • | • | | | | | • | | | 300/149 | Low Viscosity | 2 | Nil | — | 1800/12.4 | 2300/15.9 | 1500/10.3 | | 5800/40.0 | 370/2250 | 2.5 | 16900/116.6 | 580/4000 | 100:58 | 77/25 200/93 | 5-7 days 1 hour | 40/4 | 30/1 30/.5 | Very low viscosity, cures at room temperature, maintains strength at high temperatures. Ideal for wet lay-up repair. |
| Hysol® EA 960F™ | | | | | | | | | | | 160/71 | Thixotropic | 2 | Nil | — | 2000/13.8 | 2200/15.2 | 700/4.8 | | — | — | — | — | — | 100:50 | 77/25 160/71 | 24 hours 1 hour | 77/25 | 30/.25 30/.1 | Fast-set fairing and smoothing compound for exterior aircraft surfaces. Color changes when fully mixed. Sandable after six hours. |
| Hysol® EA 9150™ Resin | | | • | • | | | • | | • | | 250/121 | Low Viscosity | 2 | Low | — | — | — | — | | 11000/75.9 | 414/2850 | 5 | — | — | 100:88 | 250/121 | 1 hour | 77/25 | 480/1 480/.5 | Low viscosity, toughened system formulated for resin transfer molding. 250°F/121°C cure and service temperature. |
| Hysol® EA 9309.3NA™ | | • | • | • | | | • | • | • | | 180/82 | Moderate Viscosity | 2 | High | 75/335 | 5500/38.0 | 5000/34.5 | 750/5.2 | | 4500/31.0 | 324/2230 | 10 | 7500/51.7 | 245/1700 | 100:22 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 35/1 35/.5 | Toughened adhesive with excellent peel strength. Contains glass beads for bond line control. |
| Hysol® EA 9313™ | | | | • | | | | • | | | 120/49 | Low Viscosity | 2 | High | 50/225 | 4200/29.0 | 4500/31.0 | 500/3.5 | | 6300/43.5 | 330/2280 | 8 | 9000/62.1 | 263/1800 | 100:25 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 60/1 60/.5 | Very low viscosity adhesive yielding tough, flexible bonds. Injectable. |
| Hysol® EA 9320NA™ | | | | • | | | • | • | • | | >180/82 | Moderate Viscosity | 2 | Moderate | 35/150 | 3400/23.5 | 4600/31.7 | 1000/6.9 | | 5000/34.5 | 330/2280 | 9 | 8800/60.7 | 265/1820 | 100:19 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 25/.5 25/.25 | High shear and high peel adhesive system with room temperature cure. |
| Hysol® EA 9321™ | • | • | | | | | • | • | • | | 250/121 | Thixotropic | 2 | Low | 6/25 | 3000/20.7 | 4000/27.6 | 1700/11.7 | | 7100/49.0 | 420/2900 | 6 | 9000/62.1 | 284/1960 | 100:50 | 77/25 180/82 | 5-7 days 1 hour | 40/4 | 40/1 40/.5 | Thixotropic adhesive that yields tough, durable bonds over a wide temperature range. |
| Hysol® EA 9323™ | | • | | | | | • | • | • | | 250/121 | Low Viscosity | 2 | Low | 4/20 | 2800/19.3 | 4200/29.0 | 1100/7.6 | | 3500/24.1 | 375/2600 | 9 | 10700/73.8 | 256/1770 | 100:45 | 77/25 180/82 | 5-7 days 1 hour | 40/4 | 30/1 30/.5 | Viscous, but pourable, liquid adhesive that yields tough, durable adhesive bonds over a wide temperature range. |
| Hysol® EA 9330™ | | • | • | • | | | • | • | • | | 180/82 | Moderate Viscosity | 2 | High | 60/265 | 5000/34.5 | 5000/34.5 | 750/5.2 | | 5600/38.6 | 384/2650 | 2.4 | 7700/53.1 | 253/1750 | 100:33 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 60/.25 60/.1 | Easy mix adhesive with high peel strength and excellent environmental durability. |
| Hysol® EA 9330.3™ | | • | • | • | | | • | • | • | | 180/82 | Thixotropic | 2 | High | 60/265 | 5700/39.3 | 4900/33.8 | 750/5.2 | | 6100/42.1 | 390/2680 | 9 | — | — | 100:33 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 60/.25 60/.1 | Non-slump thixotropic adhesive with high peel strength and excellent environmental durability. |
| Hysol® EA 9346.5™ | | • | • | • | | | • | • | • | | 275/135 | Moderate Viscosity | 1 | High | 60/265 | 4500/31.0 | 5500/38.0 | 4500/31.0 | | 5000/34.5 | 260/1800 | 3 | 15000/103.5 | 400/2750 | — | 250/121 | 1 hour | 40/4 | 14 days/1 14 days/.5 | Moderate viscosity, one component, high peel and shear strength. Outstanding hot/wet properties. Recommended replacement for Hysol® EA 9304.1™ and Hysol® EA 9304.2™. |
| Hysol® EA 9359.3™ | | • | • | • | | | • | • | • | | 200/93 | Thixotropic | 2 | High | 75/335 | 4000/27.6 | 4500/31.0 | 1000/6.9 | | 5300/36.6 | 320/2200 | 7.7 | — | — | 100:44 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 40/1 40/.5 | Excellent peel and shear strength. Bonds a variety of substrates. Volumetric mix ratio 2:1. Improvement over Hysol® EA 9309NA™ series adhesives. |
| Hysol® EA 9360™ | | • | • | • | | | • | • | • | | >225/107 | Thixotropic | 2 | High | 60/265 | 4000/27.6 | 5000/34.5 | 1200/8.3 | | — | — | — | — | — | 100:43 | 77/25 180/82 | 5-7 days 1 hour | 77/25 | 40/.5 40/.25 | Volumetric mix ratio 2:1. Structural adhesive, exhibits excellent peel strength, and tensile lap shear strength to 250°F/121°C. |
| Hysol® EA 9371™ | | • | • | | | | • | • | • | | 180/82 | Moderate Viscosity | 2 | Low | 15/70 | 1600/11.0 | 3700/25.5 | 1000/6.9 | | — | — | — | — | — | 100:62 | 77/25 180/82 | 24 hours 1 hour | 40/4 | 18/.25 18/.1 | Fast-set, tough, good hot/wet properties. Handling strength after two hours. Volumetric mix ratio 1:1. |
| Hysol® EA 9377™ | | | | | | | • | • | • | | >200/93 | Thixotropic | 2 | Nil | — | 2300/15.9 | 2300/15.9 | 2000/13.8 | | — | — | — | 16000/110.3 | 700/4820 | 100:19 | 77/25 180/82 | 5-7 days 1 hour | 40/4 | 60/.25 60/.1 | Moldable plastic shim, excellent microcracking resistance under thermal cycling. High compressive strength. |
| Hysol® EA 9380™ | | • | • | • | | | • | • | • | | 250/121 | Thixotropic | 2 | High | 50/225 | 4650/32 | 5350/37 | >3500/>24.1 | | — | — | — | 11300/78 | 355/2950 | 100:55 | 160/70 | 4 hours | 40/4 | 180/1 180.5 | Cures at low temperature. Offers strength, toughness and high temperature resistance of heat-curing film adhesives, with greater flexibility and ease of use. Can be applied to large parts with controlled meter mix operation. |
| Hysol® EA 9390™ | | • | • | • | | | • | • | • | | >350/177 | Low Viscosity | 2 | Nil | — | 2200/15.2 | 3500/24.1 | 3000/20.7 | | 8200/56.6 | 418/2900 | 2.5 | 5300*/36.6* | — | 100:56 | 200/93 | 3.5 hours | 40/4 | 120/.5 120/.25 | Low viscosity system for high temperature wet lay-up composite repair. Qualified to BMS 8-301. |

NOTE: New products in bold.

* Compressive shear strength as a wet lay-up resin with 3K-70-P fiber.



ADHESIVE SYSTEMS

Paste Adhesives and Specialty Resins and Mold Release Products

| Product | Applications | | | | Characteristics | | | | Mechanical Properties | | | | Bulk Properties | | | | Handling | | | | Description | | | | | | | | |
|----------------------|--------------|-------------------|--------------------------|-------------------|--------------------|-----------|-------------|--------------------|-----------------------|-----------------------------|-----------|-----------------------------|-------------------------|---------------|--------------------------------------|--|---------------------------|----------------------------|---|--|-------------|---|---|--|-------------------------------------|-----------------------------|-----------|--------------------------------|---|
| | Potting | Structural Repair | Low Viscosity Wet Lay-up | Composite Bonding | High Peel Strength | Syntactic | Liquid Shim | 180°F/82°C Service | 300°F/149°C Service | Improved Hot/Wet Properties | Toughened | Service Temperature (°F/°C) | Form (1 part or 2 part) | Peel Strength | Bell Peel 77°F (lb/in)/25°C (N/25mm) | Tensile Lap Shear -67°F (psi)/ -55°C (MPa) | 77°F (psi)/ 25°C (MPa) | 200°F (psi)/ 93°C (MPa) | Tensile Strength @ 77°F (psi)/25°C (MPa) | Tensile Modulus @ 77°F (ksi)/25°C (MPa) | | Elongation @ 77°F/25°C % at break | Compressive Strength @ 77°F (psi)/25°C (MPa) | Compressive Modulus @ 77°F (ksi)/25°C (MPa) | Mix Ratio Weight (Part A/Part B) | Cure Temperature (°F/°C) | Cure Time | Storage Temperature (°F/°C) | Pot Life (minutes/lb)/(minutes/kg) |
| Hysol® EA 9394™ | • | • | • | | | • | | • | • | | 350/177 | Thixotropic | 2 | Low | 20/ 90 | 3300/ 22.8 | 4200/ 29.0 | 2900/ 20.0 | | | | | | 100:17 | 77/25 150/66 | 5-7 days 1 hour | 77/25 | 100/1 100/.5 | Thixotropic adhesive with structural properties to 350°F/177°C. Volumetric mix ratio 4:1. |
| Hysol® EA 9394.2™ | • | • | | | | • | • | | • | | 225/107 | Thixotropic | 2 | Nil | — | 2900/ 20.0 | 4500/ 31.0 | — | | | | | | 100:27 | 77/25 200/93 | 24 hours 1 hour | 77/25 | 15/.25 15/.1 | Fast cure adhesive for liquid shim and potting. Handling strength within 6-8 hours. |
| Hysol® EA 9394™/C-2™ | | • | | | | | | • | | | 450/232 | Moderate Viscosity | 2 | Low | 10/ 45 | 3500/ 24.0 | 5000/ 34.5 | 3500/ 24.1 | | | | 24000/ 165.5 | — | 100:20 | 200/93 | 1 hour | 77/25 | 480/1 480/.5 | Elevated cure, thixotropic adhesive with structural properties to 450°F/232°C. |
| Hysol® EA 9395™ | • | • | • | | | | | • | • | | 350/177 | Thixotropic | 2 | Low | 15/ 70 | 2300/ 15.9 | 4000/ 27.6 | 2400/ 16.6 | | | | 14000/ 96.6 | 428/ 2950 | 100:17 | 77/25 150/66 | 5-7 days 1 hour | 77/25 | 100/1 100/.5 | Two-part, non-metallic filled version of Hysol® EA 9394™. |
| Hysol® EA 9396™ | | • | • | • | | | | • | • | | 350/177 | Low Viscosity | 2 | Moderate | 25/ 110 | 3300/ 22.8 | 3500/ 24.1 | 3200/ 22.1 | | | | 70000*/ 482.8* | 8000*/ 55150* | 100:30 | 77/25 150/66 | 5-7 days 1 hour | 77/25 | 75/1 75/.5 | Two-part, low viscosity, unfilled version of Hysol® EA 9394™. Qualified to BMS 8-301. |
| Hysol® EA 9396™/C-2™ | | • | • | • | | | | • | • | | 400/204 | Low Viscosity | 2 | Low | 15/ 70 | 2500/ 17.2 | 3000/ 20.7 | 2000/ 13.8 | | | | 14000/ 96.6 | — | 100:36 | 200/93 | 1 hour | 77/25 | 480/.25 480/1 | Two-part, elevated cure, unfilled, low viscosity adhesive with structural properties to 400°F/204°C. |
| Hysol® EA 9396.6MD™ | • | | | | • | | | • | | | 300/149 | Syntactic | 2 | Nil | — | 2000/ 13.8 | 2600/ 18.0 | 1500/ 10.3 | | | | 3800/ 26.2 | — | 100:31 | 77/25 180/82 | 5-7 days 1 hour | 40/4 | 120/1 120/.5 | 77°F/25°C cure syntactic, with excellent high temperature properties. Density of 37 pcf (0.6 g/cc). |
| Hysol® EA 9815™ | • | | • | • | | | | • | • | | 250/121 | Moderate Viscosity | 1 | High | 50/ 275 | 4500/ 31 | 5100/ 35 | 2500/ 1700 | | | | 26739/ 185 | 267/ 1843 | — | 250/121 | 1 hour | 0/-18 | 14 days/1 14 days/.5 | Pumpable, one-component, high peel and high shear strength when bonding to aluminum and composite substrates. Reduced application time. |



PASTE ADHESIVES AND SPECIALTY RESINS

* Longitudinal compressive strength as a wet lay-up resin with T-300-W133 fiber.

Mold Release Products

| Product | Application Temperature Range | Cure Time | Benefits | Description | Product | Application Temperature Range | Cure Time | Benefits | Description |
|-------------------------|-------------------------------|---|---|---|------------------|-------------------------------|--|---|---|
| Frekote® Wipes | Ambient | Cure for 30 minutes at ambient temperature after last coat | <ul style="list-style-type: none"> Easy convenient package for single wipe use Easily applied at room temperature Utilizes high quality lint-free wipe cloths May be used for touch-up applications Improved storage stability | Frekote® Wipes are pre-saturated with a semi-permanent, non-migratory release system that chemically bonds to the mold surface to form a microthin film, which is stable at temperatures exceeding most molding processes. Easy pack design allows pre-saturation prior to use, thus extending usable shelf life of the wipe. | Frekote® 48-NC™ | Up to 140°F/60°C | 3 hours at room temperature, or bake for 15 mins. at 210°F-300°F/100°C-150°C | <ul style="list-style-type: none"> High thermal stability Better mold utilization No mold build-up High productivity Significantly lower mold maintenance costs No contaminating transfer | A non-CFC release agent with the same polymeric base as Frekote® 44-NC™, with only a slight modification in the solvent blend for better non-transference. This semi-permanent, non-migratory release system chemically bonds to the mold surface to form a microthin film, which is stable at temperatures exceeding most molding processes. |
| Frekote® 901-WB™ | 70°F-90°F/21°C-32°C | Cure for more than 1 hour at ambient temperature after last coat | <ul style="list-style-type: none"> Non-toxic water-based system Apply at room temperature Cure at room temperature Low VOC Non-flammable Thermal stability to 480°F/250°C | A proprietary water-based emulsion developed for releasing aerospace and other high performance composite structures. Designed to be applied and cured at ambient shop temperature. Spray application is recommended for best appearance of part off tool. | Frekote® 55-NC™ | Up to 140°F/60°C | 30 mins. at room temperature, or bake for 5 mins. at 210°F-300°F/100°C-150°C | <ul style="list-style-type: none"> Fast dry and cure No mold build-up High thermal stability Reduced odor No contaminating transfer | A non-CFC release agent designed to provide multiple releases with no contaminating transfer. This semi-permanent release system chemically bonds to the mold surface to form a microthin film that is stable at process temperatures. |
| Frekote® B-15™ Sealer | Up to 140°F/60°C | 24 hours at room temperature, or bake for 60 mins. at 210°F-300°F/100°C-150°C | <ul style="list-style-type: none"> Seals mold porosity No contaminating transfer Compatible with all Frekote® products | Formulated as a sealer for molds with microporosity problems, small surface scratches or imperfections. Used in conjunction with other Frekote® products, Frekote® B-15™ provides an excellent base coat, enhancing the release advantages of all Frekote® products. | Frekote® 700-NC™ | Up to 275°F/135°C | 5-10 mins. after final coat at room temperature | <ul style="list-style-type: none"> Superior multiple release High gloss and high slip No chlorinated solvents Versatile: releases most polymers | A non-CFC, semi-permanent, multiple release polymer resin that effectively releases all thermoset resins. Versatile agent that provides slip where mold geometry problems are encountered. Cures at room temperature, gives high-gloss finish to molded parts. |
| Frekote® 44-NC™ | Up to 140°F/60°C | 3 hours at room temperature, or bake for 15 mins. at 210°F-300°F/100°C-150°C | <ul style="list-style-type: none"> High thermal stability Better mold utilization No mold build-up High productivity Significantly lower mold maintenance costs No contaminating transfer | A non-CFC release agent designed to provide multiple releases with no contaminating transfer. Can be used for the release of thermoplastics, thermosetting resins, boron, aramid, graphite/carbon fiber composites and fiberglass laminates. | Frekote® 770-NC™ | Up to 140°F/60°C | 5-10 mins. after final coat at room temperature | <ul style="list-style-type: none"> Fast dry and cure High gloss and high slip Versatile: releases most polymers No mold build-up Reduced odor | A non-CFC, semi-permanent, multiple release polymer resin that effectively releases all thermoset resins. Versatile agent that provides slip where mold geometry problems are encountered. Rapid dry and cure at room temperature to give a high slip film capable of maximum release performance. |

NOTE: New products in bold.

MOLD RELEASE PRODUCTS

ADHESIVE SYSTEMS

Film Adhesives

| Product | Applications | | | | | Characteristics | | Mechanical Properties | | | | | Bulk Properties | | Handling | | Storage Temperature (°F/°C) | Description | |
|---------|--------------|---------------------|---------|-------------------|---------------------------|--------------------|---------------------|-----------------------------|----------------------------|-------------------------|-----------------------|-----------|--------------------------------|--|--|-----------------|-----------------------------|-------------|----------------|
| | Sprayable | Composite Surfacing | Low VOC | Composite Bonding | Metal & Honeycomb Bonding | 180°F/82°C Service | 350°F/177°C Service | Service Temperature (°F/°C) | Outtime (Days @ 77°F/25°C) | -67°F (psi)/-55°C (MPa) | 77°F (psi)/25°C (MPa) | Lap Shear | Elevated Temperature (psi/MPa) | Honeycomb Climbing Drum Peel @ 77°F (in•lb/in)/ 25°C (m•N/m) | Flatwise Tension @ 77°F/25°C (psi/MPa) | Primer Coverage | | | Tg Dry (°F/°C) |



FILM ADHESIVES

FILM ADHESIVES

| FILMS | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|--|---|--|---|---|---|---|----------|-----|-------------|-------------|---------------------------------|--------|-----------|---|--|--|--|--------------------|--------------|-------|---|
| Hysol® EA 9628™ | | | | • | • | • | | 250/121 | 20 | 5500/38.0 | 6000/41.3 | 2000 @ 250°F 13.8 @ 121°C | 18/80 | 1400/9.7 | — | | 250/121 | 210/99 | 250/121 | 1 | 0/-18 | First generation, modified epoxy film, good stress, environmental resistance and structural properties up to 250°F/121°C. Data from .060 psf, 300 g/m². |
| Hysol® EA 9628H™ | | | | • | • | • | | 250/121 | 20 | 5500/38.0 | 5800/40.0 | 1500 @ 250°F 10.3 @ 121°C | 20/90 | 1100/7.6 | — | | 240/116 | 200/93 | 250/121 | 1 | 0/-18 | First generation, modified epoxy film, high peel strength, good stress, environmental resistance and structural properties up to 250°F/121°C. Data from .060 psf, 300 g/m². |
| Hysol® EA 9657™ | | | | • | • | | • | 400/204 | 15 | 4800/33.0 | 5000/34.5 | 2300 @ 350°F 15.9 @ 177°C | 13/60 | 1150/8.0 | — | | 360/182 | 270/132 | 350/177 | 1 | 0/-18 | High temperature, service film adhesive designed for high honeycomb peel in a reticulated sound suppression structure. Qualified to BMS 5-137. Data from .080 psf, 400 g/m². |
| Hysol® EA 9658™ | | | | • | • | | • | 350/177 | 15 | 3900/27.0 | 4800/33.0 | 2800 @ 350F 19 @ 177C | 12/50 | 1000/7.0 | — | | 392/200 | 300/150 | 350/177 | 1 | 0/-18 | High temperature and high durability film adhesive designed for high toughness and high temperature performance where continuous exposures up to 350°F/177°C are required. |
| Hysol® EA 9673™ (BMI) | | | | • | • | | • | 550/288 | 30 | 2000/13.8 | 2000/13.8 | 2200 @ 500°F 15.2 @ 260°C | 3/15 | 600/4.1 | — | | 568/298 | 410/210 | 350/177 | 1*** | 0/-18 | Modified BMI film adhesive, superior strength to 550°F/288°C. Moisture resistant, processes like conventional high temperature epoxies. Minimum order required. Data from 0.10 psf, 500 g/m². |
| Hysol® EA 9686™ | | • | | • | • | • | | 300/149 | 90 | 5800/40.0 | 5800/40.0 | 1000 @ 300°F 6.9 mpa @ 149°C | 17/76 | 1000/6.9 | — | | 271/133 | N/A | 250/121 | 1 | 0/-18 | Second generation, moisture resistant, toughened 250°F/121°C curing film with service performance to 300°F/149°C. Excellent for composite or metal bonding. Data from .060 psf, 300 g/m². |
| Hysol® EA 9689™ | | | | • | • | | • | 420/216 | 10 | 3700/25.5 | 3500/24.1 | 3200 @ 350°F 22.0 @ 177°C | 8/35 | 850/5.9 | — | | 435/224 | 345/174 | 350/177 | 1 | 0/-18 | Modified epoxy film adhesive with high temperature strength and long term thermal durability. Data from 0.10 psf, 500 g/m². |
| Hysol® EA 9695™ | | • | | • | • | • | | >300/149 | 90 | 4400*/30.3* | 5000*/34.5* | 2800* @ 270°F 19.3* @ 132°C | — | 1200/8.3 | — | | ¹⁾ 252/122 ²⁾ 302/150 | ¹⁾ 187/86 ²⁾ 203/95 | 250/121 350/177 | 1.5 | 0/-18 | Second generation low-flow composite bonding film, excellent environmental resistance. Composite structure repair, cure and co-cure with composite laminates. Qualified to Airbus. Data from .050 psf, 250 g/m². |
| Hysol® EA 9696™ | | • | | • | • | • | | 250/121 | 60 | 7000/48.3 | 6000/41.3 | 2000 @ 250°F 13.8 @ 121°C | 25/110 | 1300/9.0 | — | | 250/121 | 220/104 | 250/121 | 1 | 0/-18 | Second generation moisture resistant, toughened 250°F/121°C service, modified epoxy film. Qualified to BMS 5-101 and BMS 5-129. Data from .060 psf, 300 g/m². |
| Hysol® PL 737™ | | | | • | • | • | | 350/177 | 14 | 2500/17.2 | 3500/24.1 | 2400 @ 350°F 16.5 @ 177°C | — | 5195/35.8 | — | | — | — | 295/146 350/177 | 2 1 | 0/-18 | Non-metallic, modified epoxy film specifically designed for use in structural aircraft components. Low flow characteristics. Intermittent service to 400°F/204°C. |
| Hysol® PL 777-1FR™ | | | | • | • | | | 300/149 | 20 | 5000/34.5 | 5000/34.5 | 2900 @ 250°F 20.0 @ 121°C | — | — | — | | — | — | 250/121 350/177 | 1.5 1 | 0/-18 | Flame retardant, non-metallic modified epoxy film adhesive designed to cure at either 250°F/121°C or 350°F/177°C with a service temperature in excess of 300°F/149°C. |
| Hysol® PL 780-1™ | | | | • | • | • | • | 350/177 | 10 | 2700/18.6 | 4200/29.0 | 1800 @ 350°F 12.4 @ 177°C | — | 1075/7.4 | — | | — | — | 350/177 | 1 | 0/-18 | Non-metallic, toughened, modified epoxy film designed for bonding metal, composite and thermoplastic structures. High shear properties at 350°F/177°C. Excellent hot-wet properties. High flow characteristics. |
| Hysol® PL 795™ | | • | | • | | • | • | 350/177 | 100 | 3500/24.1 | 3900/26.9 | 2500 @ 270°F 17.2/132°C | — | 864/5.9 | — | | — | — | 250/121 350/177 | 1.5 1 | 0/-18 | Epoxy film adhesive designed for composite bonding applications. May cure at 250°F/121°C or 350°F/177°C, with service temperatures up to 350°F/177°C. Ideal for co-cure or secondary bonding applications. Outstanding handling characteristics. Superior elevated temperature performance at 270°F/132°C. Excellent outtime. Exceeds requirements of BMS 5-154. Can be used for both surfacing film and lightning strike applications. |
| Hysol® PL 795-1™ | | • | | • | | • | • | 350/177 | 100 | 3600/24.8 | 4300/29.7 | 1900 @ 300°F 13.1 @ 149°C | — | 1000/6.9 | — | | — | — | 250/121 350/177 | 1.5 1 | 0/-18 | Tougher version of Hysol® PL 795™. Excellent flow characteristics. Excellent tack and handling characteristics. Improved elevated temperature performance. Can be used for both surfacing film and lightning strike applications. |
| Hysol® PL 7000™ | | • | | | | • | | 300/149 | 30 | 3600/26.2 | 4500/31.0 | 1300 @ 270°F 9.0 @ 132°C | — | 1070/7.4 | — | | 145 | — | 250/121 350/177 | 1.5-2 1-2 | 0/-18 | Epoxy film adhesive formulated to provide excellent performance properties in composite bonding, and has excellent results on composite surfaces that have been exposed to bond shop environments and may have absorbed moisture. Excellent fracture toughness (G _{1c}) over composite surfaces exhibiting cohesive failure patterns, indicating superior adhesion characteristics. Qualified at Boeing. |

NOTE: New products in bold. * Composite double overlap shear. ** On unetched metal. *** Postcure of 2 hours @ 475°F/245°C.

¹⁾ 250°F/121°C cure. ²⁾ 350°F/175°C cure.

ADHESIVE SYSTEMS

Peel Ply and Primers

| Applications | Characteristics | Mechanical Properties | | | | | | | | | | | Bulk Properties | | Cure Time (hours) | Storage Temperature (°F/°C) |
|--------------|-----------------|-----------------------|--------------------------------|--|--|-----------------|----------------|----------------|--------------------------|--|--|--|-----------------|--|-------------------|-----------------------------|
| | | Lap Shear | Elevated Temperature (psi/MPa) | Honeycomb Climbing Drum Peel @ 77°F (in•lb/in)/25° (m•N/m) | Flatwise Tension @ 77°F/25°C (psi/MPa) | Primer Coverage | Tg Dry (°F/°C) | Tg Wet (°F/°C) | Cure Temperature (°F/°C) | | | | | | | |



PEEL PLY AND PRIMERS

PEEL PLY AND PRIMERS

| PEEL PLY | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|---|---|---|---|---------|-----|-----------|-----------------|--|-------|----------|----------|---|---|---------|-----|-------|---|---|---|---|---|--|
| Hysol® EA 9895™ | • | • | • | • | 300/149 | 14 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | Pre-impregnated, polyester peel ply product supplied in film form. Specially designed resin system capable of curing at 350°F/177°C. Compatible with state-of-the-art composite prepreg resin systems. Provides minimal residual peel ply fibers at the bond surface after curing and removal. |
| PRIMERS | | | | | | | | | | | | | | | | | | | | | | | |
| Hysol® AL 2000™ | • | • | • | • | 250/121 | 30 | 3165/22 | 4200/29 | 1500 @ 250°F 10 @ 121°C with Hysol® PL 639™ film | N/A | N/A | 600/56 | – | – | 315/157 | 1.5 | 40/5 | Heat curing, nitrile phenolic, water-based primer. Cured product furnishes excellent resistance to chemicals and water. Qualified to Boeing BMS 5-42, Type 3. | | | | | |
| Hysol® EA 9203™ | • | • | • | • | 300/149 | 365 | – | 1000** 6.9** | – | – | – | – | – | – | N/A | – | 77/25 | Primer enhances adhesion on poorly prepared surfaces. Requires only room temperature drying prior to bond. Use with room temperature curing paste adhesives. | | | | | |
| Hysol® EA 9210H™ 10% | • | • | • | • | 250/121 | 90 | 5500/38.6 | 6300/43.4 | 3000 @ 220°F 20.7 @ 104°C with Hysol® EA 9628H™ film | 20/90 | 1100/7.6 | 450/42 | – | – | 275/135 | 1 | 0/-18 | Corrosion inhibiting primer, maintains surface bondability after multiple prebonding cure cycles. Distinct color change during cure. | | | | | |
| Hysol® EA 9257™ | • | • | • | • | 350/177 | 30 | 4800/33.1 | 5000/34.5 | 2000 @ 350°F 13.8 @ 177°C with Hysol® EA 9657™ film | 13/60 | 1150/8.0 | 1200/110 | – | – | 270/132 | 1 | 40/5 | waterborne, corrosion inhibiting primer, maintains surface bondability after multiple prebonding cure cycles. Meets SCAQMD Rule 1124. Replacement for Hysol® EA 9210B™. | | | | | |
| Hysol® EA 9258.1 | • | • | • | • | 350/177 | 30 | 3900/27.0 | 4800/33.0 | 2800 @ 350°F 19 @ 177°C | 12/50 | 1000/7.0 | 1200/110 | – | – | 350/177 | 1 | 40/5 | waterborne, corrosion inhibiting primer, designed to provide enhanced toughness and high temperature performance where continuous exposures up to 350°F/177°C are required. Meets SCAQMD Rule 1124. | | | | | |

NOTE: New products in bold. * Composite double overlap shear. ** On unetched metal. *** Postcure of 2 hours @ 475°F/245°C. ¹ 350°F/177°C cure.

DISPENSING SYSTEMS

Versatile dispensing systems for two-part adhesive chemistries incorporate a variety of feed system options. Available in fixed or variable ratio, the systems offer programmable shot size and integrated PLC controls with convenient touch screen capability. These units come standard with mild steel pump components with optional abrasion resistant or 304 stainless steel.



Meter Mix 3000

FEATURES:

- Fixed and variable mix ratio capability
- Programmable shot size selection from touch screen
- Ratio check valves
- Adjustable flow control
- Mild steel or abrasion resistant pumps available
- 4.5" W x 3.4" H monochrome touch screen and PLC
- Cycle totalizer
- Maintenance totalizer
- Automatic purge controller
- Emergency stop palm button
- Foot switch activation



Direct from the factory premeasured packaging.

ADHESIVE SYSTEMS

Syntactic Products



SYNTACTIC PRODUCTS

SYNTACTIC PRODUCTS

| Product | Applications | Characteristics | | | Bulk Properties | | | Handling | | | Description | | | | |
|--|-------------------------------|---------------------------|-------------|--------------------|---------------------|-----------------------------|----------------------------|----------------------------|---|--|---|----------------------------------|--------------------|-----------------------------|--|
| Composite Surfacing | Syntactic Film, Non-Expanding | Syntactic Film, Expanding | Core Splice | 180°F/82°C Service | 300°F/149°C Service | Service Temperature (°F/°C) | Outtime (days @ 77°F/25°C) | Outtime (days @ 90°F/32°C) | Block Compressive (dry) @ 77°F (psi)/25°C (MPa) | Tensile Strength @ 77°F (psi)/25°C (MPa) | Tensile Modulus @ 77°F (ksi)/25°C (MPa) | Cure Temperature (°F/°C) | Cure Time (hours) | Storage Temperature (°F/°C) | |
| SYNCORE® SYNTACTIC FILMS | | | | | | | | | | | | | | | |
| SynCore® 9823.1™ | • | | | • | | 250/121 | 15 | 10 | 9000/62 | 4500/31 | 363/2500 | 250/121 | 1 | 0/-18 | Toughened, low density syntactic core, superior moisture resistance, co-curable with a variety of 250°F/121°C curing epoxy prepregs. |
| SynCore® 9872.1™ | • | | | | • | 350/177 | 15 | 10 | 8800/61 | 4500/31 | 400/2750 | 350/177 | 1 | 0/-18 | Toughened, low density syntactic core, superior moisture resistance, co-curable with a wide variety of 350°F/177°C curing epoxy prepregs. |
| SYNSPAND® EXPANDING SYNTACTIC FILMS | | | | | | | | | | | | | | | |
| SynSpand® EA 9890™ Abradable Seal | | • | | | | 180/82 | 15 | 10 | — | 1100/7.6 | 62/430 | 250/121 | 2 | 0/-18 | Expanding modified epoxy film, cures at 250°F/121°C, used for jet engine abradable fan seals. |
| SynSpand® 9899™ | | • | | | | 250/121 | 15 | 10 | 500 @ 12 pcf density/ 3.45 @ 0.19 g/cc | — | — | 250/121 | 1 | 0/-18 | Very high expansion, closed cell expanding film designed for use as shop floor aid in closed mold processes. |
| SynSpand® 9899CF™* | | • | • | | | 350/177 | 15 | 10 | 2000 @ 26 pcf density/ 13.8 @ 0.42 g/cc | — | — | 250/121 or 350/177 | 1 | 0/-18 | Closed cell expanding syntactic film for use in a designed medium density/strength range of 18-35 pounds per cubic foot (0.29-0.56 g/cc). Ideal for core filling and edge close-out. |
| COMPOSITE SURFACING FILMS | | | | | | | | | | | | | | | |
| SynSkin® HC 9837.1™ | • | | | | | 350/177 | 90 | 21 | — | — | — | 250/121 or 350/177 | 1 | 0/-18 | Epoxy-based composite surfacing film improves surface quality of honeycomb stiffened composite parts. Cures at 250°F/121°C or 350°F/177°C with a variety of epoxy prepregs. Resistant to microcracking from thermal cycling. Black and lightning strike versions available. |
| Hysol® PL 795SF™ | • | | | | | 350/177 | 100 | — | — | — | — | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | Modified epoxy film specifically formulated to improve the surface appearance of composite honeycomb structures. Excellent surface appearance; reduced pinholing, extra finishing. Superior outtime. Good building tack; repositionable on itself, prepregs, tools. |
| CORE SPLICES | | | | | | | | | | | | | | | |
| | | | | | | | | | Tube Shears @ 77°F (psi)/25°C (MPa) | Tube Shears @ 250°F (psi)/121°C (MPa) | | | | | |
| Hysol® EA 9833.1™ (BMI) | | | • | • | | 450/232 | 30 | 10 | 1000/6.8 | 1000/6.8 | | 350/177 with 450/232 postcure | 2 @ 450°F/232°C | 0/-18 | Modified BMI foaming core splice, co-curable with a wide variety of 350°F/177°C curing epoxy prepregs. Elevated service temperature to 450°F/232°C. |
| Hysol® MA 557™ | | | • | • | | 350/177 | 10 | 5 | 1191/8.2 | 1063/7.3 | | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | Modified epoxy foaming adhesive that may be cured at 250°F/121°C or 350°F/177°C. Designed to seal, splice or reinforce honeycomb materials. Excellent slump resistance, medium tack, non-metallic. |
| Hysol® MA 562™ | | | • | • | | 350/177 | 20 | 10 | 1200/8.3 | 1150/8.0 | | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | General purpose 250°F/121°C or 350°F/177°C curing foaming adhesive. Designed for service temperatures from -67°F/-55°C to 350°F/177°C. Medium tack, non-metallic, low exotherm properties, excellent slump resistance, uniform expansion, qualified to many industry specifications. |
| Hysol® MA 562S™ | | | • | • | | 350/177 | 10 | 10 | 1100/7.5 | 1000/6.8 | | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | Modified epoxy foaming adhesive that may be cured at 250°F/121°C or 350°F/177°C. Non-metallic, medium tack, excellent slump resistance. |
| Hysol® MA 562SFR™ | | | • | • | | 350/177 | 10 | 10 | 850/5.8 | 1000/6.8 | | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | Modified epoxy foaming adhesive that may be cured at 250°F/121°C or 350°F/177°C. Flame-retardant, non-metallic, medium tack, excellent slump resistance. |
| Hysol® PL 460™ | | | • | • | | 350/177 | 30 | 10 | 1682/11.6 | 1170/8.1 | | 250/121 or 350/177 | 1.5 or 1 | 0/-18 | Foaming epoxy adhesive in paste form for easy extrusion through packaged cartridges. Expands and cures at temperatures from 250°F/121°C to 350°F/177°C. Qualified to Boeing BMS 5-90, Type IV. |

* SynSpand® 9899CF™ may also be used as a core splice.

SURFACE TREATMENTS

Cleaners

| Product | Applications | Characteristics | Substrate | Operation | Description |
|---------|--------------|-----------------|-----------|-----------|-------------|
|---------|--------------|-----------------|-----------|-----------|-------------|



CLEANERS

CLEANERS

| Product | Applications | Characteristics | Substrate | Operation | Description |
|---|--------------|--|---------------------------------|--|--|
| CLEANERS | | | | | |
| Ridoline® 298™ | ● | Liquid Concentrated Immersion 4-10 gals per 100 gals Water | Alkaline ● | 130°-180°F 54°-82°C 3-15 minutes | Ridoline® 298™ is a liquid, non-silicated, immersion cleaner for aluminum and aluminum alloys. It is formulated for use in anodizing and conversion coating lines. It is free rinsing and will remove a variety of soils including oils, greases, inks, and wax-based markings. |
| Turco® Altrex® 24™ | ● | Liquid Concentrated Immersion 6 gals per 100 gals Water | Alkaline ● ● ● ● ● ● | 120°-180°F 49°-82°C 3-10 minutes | Turco® Altrex® 24™ is an inhibited, non-etching, concentrated liquid alkaline cleaner for cleaning aluminum and aluminum alloys. Turco® Altrex® 24™ is an effective remover of most soils found on aluminum, plus other metals, and can be used in a variety of cleaning operations. Turco® Altrex® 24™ is qualified under Boeing BAC 5749 as a medium duty soak cleaner. |
| Turco® T-4181L™ (Liquid Alkaline Rust Remover) | ● ● | Liquid Concentrated Immersion Process Dependent - See Henkel Representative | Alkaline ● ● ● ● | 176°-203°F 80°-95°C 15-60 minutes | Turco® T-4181L™ (Liquid Alkaline Rust Remover) is an amber, liquid compound formulated to remove rust, paints, lube oils, drawing pastes, cutting oils and protective oils from ferrous alloys by immersion methods. Will not attack ferrous alloys, magnesium alloys, stainless steels, brass, bronze or Monel alloys when used as directed. Turco® T-4181L™ (Liquid Alkaline Rust Remover) is normally used at 50% to 75% in water at 176°F-203°F/80°C-95°C and can be used on titanium alloys when diluted to 12% to 15% in water at 158°F-167°F/70°C-75°C. |
| Turco® 4215 NC-LT™ | ● | Powder Concentrated Immersion, Spray or Ultrasonic Immersion: 45-60 g/liter Spray: 7-15 g/liter Ultrasonic: 3-15 g/liter | Mildly Alkaline ● ● ● ● ● | 113°-131°F 45°-55°C Immersion: 5-10 minutes Spray: 2-4 minutes | Turco® 4215 NC-LT™ is a white granular mix developed for cleaning ferrous and nonferrous alloys by spray, immersion and ultrasonic methods at low temperatures. Ideal for cleaning fuel and hydraulic components and for cleaning metals prior to metal bonding. |
| Turco® Ridoline® 4355™ | ● | Liquid Concentrated Immersion 5-15 gals per 100 gals Water | Alkaline ● ● ● ● ● ● | 110°-160°F 43°-71°C 2-15 minutes | Turco® Ridoline® 4355™ is a phosphate-free liquid, immersion-applied, non-etching, cleaning product designed specifically to replace halogenated hydrocarbon vapor degreasers for cleaning aluminum alloys. It is formulated for removal of various soils such as oils, greases, inks, and wax based markings. Superior cleaning characteristics compared to vapor degreasing, while providing some amount of interstage corrosion protection. Turco® Ridoline® 4355™ is approved per Boeing BAC 5763 and BAC 5749. |
| Turco® 4460-BK™ | ● ● | Liquid Ready-to-Use Wipe Use as Received | MEK Free Solvent ● ● ● ● ● ● | See Technical Data Sheet See Technical Data Sheet | Turco® 4460-BK™ is a water-white liquid formulated to replace methyl ethyl ketone and similar solvents that are environmentally unacceptable due to their high composite vapor pressures. |
| Turco® 5578-L™ | ● | Liquid Ready-to-Use Immersion or Spray Use as Received or Diluted to 15% | Alkaline ● ● ● ● ● | 176°-203°F 80°C-95°C Immersion: 15-60 minutes | Turco® 5578-L™ is an amber, liquid compound formulated to clean and etch titanium, columbium and tantalum alloys by spray or immersion systems. Readily removes mill soils, marking inks, lube oils, cutting oil and fingerprints at a low concentration and will etch titanium at higher concentrations. It is an effective etch prior to adhesive bonding, diffusion bonding, painting, welding and brazing. Boeing approved. |
| Turco® 5578-GL™ | ● | Liquid Ready-to-Use Immersion Use as Received or Diluted to 15% | Alkaline ● ● ● ● ● | 176°-203°F 80°C-95°C Immersion: 15-60 minutes | Turco® 5578-GL™ is a liquid product formulated for alkaline etching of titanium, columbium and tantalum alloys by immersion systems or spray applications in addition to being an effective etch prior to adhesive bonding, diffusion bonding, painting, welding and brazing. |
| Turco® 5948-DPM™ | ● ● ● ● | Liquid Concentrated Immersion, Spray or Mop Immersion: 1:3-20 Spray/Mop: 1:9-30 | Alkaline, Water-Based ● ● ● ● ● | 149°-176°F 65°-80°C Immersion: 5-15 minutes | Turco® 5948-DPM™ is an alkaline, water-based, blue concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all models of jet aircraft. It is also designed to be used in immersion tanks, for dip applications. |
| Turco® 5948-R™ | ● ● ● ● | Liquid Concentrated Immersion, Spray or Mop 3%-30% in Water | Alkaline, Water-Based ● ● ● ● ● | 149°-176°F 65°-80°C Immersion: 5-15 minutes | Turco® 5948-R™ is an alkaline, water-based, blue, concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all aircraft large or small, and for cleaning engine parts during engine overhaul. It is also designed to be used in immersion tanks, for dip applications. |
| Turco® 6751-L™ | ● ● | Liquid Concentrated Spray 1%-4% in Water | Alkaline ● ● ● ● ● | 86°-140°F 30°-60°C 1-2 minutes | Turco® 6751-L™ is a liquid alkaline, low temperature cleaner for spray applications. It is a brown colored liquid, developed to remove shop soils, lube oils, light drawing oils and drawing waxes from ferrous and nonferrous metals. Rinses from metal surfaces with room temperature water and is effective from 30°C to 60°C. |
| Turco® 6780™ | ● ● | Liquid Ready-to-Use or Diluteable Wipe Ready-to-Use or Diluteable 1:10 | Alkaline, Water-Based ● ● ● ● ● | See Technical Data Sheet See Technical Data Sheet | Turco® 6780™ is a clear, blue liquid formulated to replace petroleum distillates, chlorinated hydrocarbon solvents and other environmentally unacceptable solvents. Turco® 6780™ is ideal for removing general shop soils and machining fluids from parts and equipment, as well as cleaning floors in the machining area and may be used on all metals including high strength steel and titanium. It will not attack well-bonded paint, most plastics, or glass. |
| Turco® 6849™ | ● | Liquid Concentrated Immersion 10%-20% in Water | Alkaline ● ● ● ● ● ● | 131°-158°F 55°-70°C Varies as Needed | Turco® 6849™ is a clear aqueous alkaline degreaser formulated to remove shop soils, marking inks, cosmoline, grease and lube oils from ferrous and non-ferrous alloys. Offers both exceptional effectiveness and exceptional tank life. Replaces solvent type vapor degreasing fluids with an effective aqueous cleaner. The costs and hazards normally associated with chlorinated solvent cleaning are thereby greatly reduced. Turco® 6849™ is approved per BAC 5763. |
| Turco® Vitro-Klene | ● | Powder Concentrated Immersion 60-75 g/L | Caustic ● ● ● ● | 158°F/70°C to Boiling Point Varies as Needed | Turco® Vitro-Klene is a brown granular mixture formulated to remove drawing compounds, lube oil, rust preventive compounds, and other tenacious soils from ferrous and titanium alloys prior to vitreous enameling and other processes that require a high degree of cleanliness. Will provide a water-break-free surface when used as recommended. Corrosive to aluminum, cadmium and zinc alloys, and should not be used on these alloys. Approved to Boeing BAC 5749. |

Metal Preparation Process:

1. Cleaning
2. Deoxidize
3. Etching
4. Conversion coating

Typical Titanium Pretreatment Process:

1. Aqueous clean with Turco® Ridoline® 4355™
2. Rinse
3. Alkaline clean (see above)
4. Acid etch with Turco® Nitradd (T-4104™)
5. Rinse
6. Conversion coat with Alodine® 5200™

Typical Aluminum Pretreatment Process:

1. Aqueous degrease with Turco® Ridoline® 4355™ or Turco® 6849™
2. Rinse
3. Alkaline clean with Turco® Altrex® 24™ or Turco® Ridoline® 4355™
4. Rinse
5. Alkaline etch with Turco® Mil Etch™ or Turco® Aluminux® Etch L™
6. Rinse
7. Deoxidize with Turco® 6/16™ Deoxidizer or Turco® Deoxalume® 2310™
8. Rinse
9. Conversion coat with Alodine® T5900™, Alodine® 5200™, Alodine® 1200S™, Alodine® 1600™, or Anodize
10. Rinse

SURFACE TREATMENTS

Deoxidizers, Etchants, CIC Remover and Maskants



| | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | Temperature | Time | KRAYDEN, INC. AUTHORIZED DISTRIBUTOR 1-800-448-0406 | | | | |
|---------------------------|--|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|------|--------------|---------------------------|--------------|-------------------------------|------------------------------|--|--------------------------|----------|---------|-------------|--------------------------|-------------|------|---|--|--|--|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | Product | Applications | Characteristics | Substrate | Operation |
| DEOXIDIZERS | DEOXIDIZERS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® Aldox® V™ | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 13-17% Turco® Aldox® V™ 23-27% Nitric Acid | Non-Chrome | ● | | | | | | | | 50°F-120°F 10°C-50°C | Varies with Alloy | Turco® Aldox® V™ is a brown liquid formulated to deoxidize, desmut, and lightly etch aluminum alloys by spray or immersion methods. Turco® Aldox® V™ is free of chrome and is ideal for processing alloys that require low surface resistance prior to anodizing, conversion coating, bonding or welding. It is approved by Boeing BAC 5765. |
| | Turco® Deoxalume® 2310™ | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 10-20% Turco® Deoxalume® 2310™ by Volume, 25-30% Nitric Acid | Acidic Non-Chrome | ● | | | | | | | | 60°F-90°F 16°C-32°C | 2-10 minutes | Turco® Deoxalume® 2310™ is a chromium-free, concentrated acidic liquid product specifically formulated for deoxidizing and desmutting wrought aluminum alloys. Extremely effective in removing surface oxides, discolorations due to heat treatment or thermal deburring, and smut which develops during alkaline etching and chemical milling. Develops a stain-free surface on aluminum alloys and is used prior to finishing operations such as anodizing, chemical milling, penetrant dye inspection and spot or resistance welding. Meets the deoxidizing requirements of U. S. Military Specification MIL-W-6858C, Paragraph 4.2 and many other aerospace specifications. |
| | Turco® 6™ Deoxidizer Makeup Turco® 16™ Deoxidizer Replenisher | ● | | | | | | | | | | | | Liquid | Concentrated, Two Packages | Immersion or Spray | For 100 Gals Solution 5 gal Turco® 6™ Deoxidizer 10 gal Nitric or 5 gal Sulfuric Acid | Chromated | ● | | | | | | | | 60°-90°F 16°-32°C | Immersion: 1-20 minutes Spray: 30 seconds to 3 minutes | The Turco® 6™/16™ Deoxidizer process primarily utilizes two liquid products, Turco® 6™ Deoxidizer Makeup and Turco® 6™/16™ Deoxidizer Replenisher. These are added to either dilute nitric acid or dilute sulfuric acid to produce an efficient production bath for the deoxidizing, desmutting or acid etching of aluminum and its alloys. Process approved for BAC 5765, Solution 27 (A,B & C). |
| | Turco® Liquid Smut-Go® NC™ | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 18%-20% in Water | Acidic Non-Chrome | ● | | | | | | | | 50°F-100°F Optimum 25°C | 1-10 minutes | Turco® Liquid Smut-Go® NC™ is a dark brown liquid formulated to deoxidize and desmut aluminum alloys by spray or immersion methods. Chromate-free. Ideal for processing alloys that require low surface resistance prior to anodizing, conversion coating, bonding or welding. Nominal etch rates for most aluminum alloys will normally be in the range of 0.02-0.10 mils/surface/hr. |
| Turco® Nitrad (T-4104™) | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion | Varies with Alloy | Acidic | ● | ● | ● | | | | | | Depends on Alloy. See Technical Data Sheet. | See Technical Data Sheet | Turco® Nitrad (T-4104™) is a clear, colorless liquid acidic compound designed to be added to nitric acid/water solutions to enhance the descaling and pickling of stainless steels and heat resistant alloys, including titanium alloys, by immersion methods. It has also been found to be effective in descaling or pickling cobalt, chrome, nickel and copper-based alloys. | |
| ETCHANTS | ETCHANTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Aluminux® Etch L™ | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion | 10-15 gals per 100 gals water | Alkaline | ● | | | | ● | | | | 100°F-160°F 38°C-71°C | 2-10 minutes | Aluminux® Etch L™ is a concentrated liquid alkaline product developed to produce a fine satin etch on aluminum and its alloys. It offers an exceptionally uniform etch and extended bath life. Approved for Boeing BAC 5786 use. |
| | Turco® Alumiprep® 33™ | ● | | ● | | | | | | | | | | Liquid | Concentrated | Immersion, Brush or Spray | Immersion: 1:3 Brush: 1:2 to 5 Spray: 1:3 | Phosphoric-Acid-Based | ● | | | | | | | | Ambient to 120°F / 49°C | - | Turco® Alumiprep® 33™ is a non-flammable phosphoric acid-based cleaner, brightener and prepaint conditioner for aluminum. It should not be used on high copper bearing aluminum alloys or aluminum castings. Cleaning with Turco® Alumiprep® 33™ produces a chemically clean and corrosion-free aluminum surface. |
| | Turco® Metal Glo #6™ | | | ● | | | | | | | | | | Liquid | Concentrated | Brush or Spray | Full Strength or 1:1 | Acid, Solvent | ● | | | | | | | | Ambient to 120°F / 49°C | Varies with Temperature | Turco® Metal Glo #6™ is a non-flammable, tri-acid, detergent-solvent-based cleaner, brightener, deoxidizer and prepaint conditioner for aluminum. It contains viscosity builders that allow for added contact time for vertical surfaces. Produces a chemically clean (water-break-free) and streak-free surface when used according to directions. Can be used to clean, deoxidize and brighten aluminum surfaces prior to welding, painting or to prepare the surface for a subsequent conversion coating. Meets the requirements of U.S. MIL-C-38334A, Amend. 1, Type 1, Class 1. Listed on QPL. Turco® Metal Glo #6™ can be used on all aircraft metals, except magnesium and high strength steel. This product is non-crazing to acrylics and can be used over well-bonded paints. |
| | Turco® Metal Glo FF (Concentrate) Turco® Metal Glo FF RTU | | | ● | | | | | | | | | | Liquid | Concentrated | Brush or Spray | Full Strength or 1:2 | Acid, Solvent | ● | | | | | | | | See Technical Data Sheet | See Technical Data Sheet | Turco® Metal Glo FF is a non-flammable, non-fluoride, acid-based cleaner, brightener, deoxidizer and prepaint conditioner for aluminum. Turco® Metal Glo FF contains viscosity builders that allows for added contact time enabling this product to remove corrosion products from horizontal and vertical surfaces. Cleaning with deoxidizing produces a chemically clean (water-break-free) and streak-free surface. |
| | Turco® Mil Etch® | ● | | | | | | | | | | | | Powder | Concentrated | Immersion | 25-50 lbs per 100 gals Water | Alkaline | ● | | | | ● | | | | 100°F-160°F 38°C-71°C | 5-10 minutes | Turco® Mil Etch® is a granular alkaline product formulated to produce a fine satin or frosted etch on aluminum and its alloys. The working solution develops a low level foam blanket to prevent caustic mist from escaping into the workplace. Provides outstanding sequestering action, which prevents build-up of scale and sludge on tank walls and heating coils. These benefits eliminate the need for expensive descaling of the tank and the heating coils and assures efficient heating of the etch bath. Approved for use under Boeing BAC 5786. |
| | Turco® Nova EC-202 L™ | ● | | | | | | | | | | | | Liquid | Concentrated | Immersion | 4%-10% in Water | Alkaline | ● | | | | ● | | | | 120°F-180°F 50°C-85°C | 1-5 minutes | Turco® Nova EC-202 L™ is a liquid alkaline, aluminum etch cleaner for immersion applications that will produce a lightly etched finish on aluminum alloys, while simultaneously removing any oils and other soils present on the work surface. Produces a stable foam blanket which effectively entraps the gases evolved during the etching operation. Contains a special blend of detergents and dispersing agents to minimize hard scale formation and, therefore, makes equipment maintenance a much easier and less costly operation. Approved for use under Boeing BAC 5786. |
| Turco® WO #1™ | ● | | ● | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 5%-25% in Water | Acidic | ● | | ● | | | | | | Ambient to 140°F/60°C | 3-10 minutes | Turco® WO #1™ is clear, colorless liquid acid cleaner and deoxidizer designed for use on aluminum and aluminum alloys. It may be used in either dip, spray and hand wipe processes. | |
| CIC REMOVER | CIC REMOVER | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® 5948-DPM™ Thick | ● | ● | | | | | | | | | | | Liquid | Concentrated | Spray or Mop | Use as Received | Alkaline, Water-Based | ● | | ● | ● | ● | ● | | | Greater than 65°F/18°C | 5-15 minutes | Turco® 5948-DPM™ Thick is an environmentally advantaged thixotropic, water-based, heavy duty aircraft cleaner. It is a blue, viscous, alkaline, concentrated compound formulated to effectively cling to painted and unpainted aircraft exterior and interior surfaces. Ideally suited for use on all jets, especially in baggage bins, flap and wheel well areas, and on engines before overhaul. |
| MASKANTS | MASKANTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turcoform 540-R™ Maskant | ● | | | | | | | | | | | | Liquid | Concentrated | Dip | See Technical Data Sheet | Styrene-Butadiene-Based | ● | ● | ● | ● | | | | See Technical Data Sheet | See Technical Data Sheet | Turcoform 540-R™ Maskant is a one-package, hand-strippable protective coating which possesses a high degree of chemical resistance. This product gives outstanding protection against the corrosive action of etchant solutions and was specially developed for the chemical milling of aluminum and titanium. | |
| Turcoform 5580-G™ Maskant | ● | | | | | | | | | | | | Liquid | Ready-to-Use | Spray, Dip, Brush | Use as Received | Styrene-Butadiene-Based | ● | ● | ● | ● | | | | See Technical Data Sheet | See Technical Data Sheet | Turcoform 5580-G™ Maskant is a green, hand-strippable coating formulated to provide protection to metal surfaces during successive fabrication operations, such as forming, chemical cleaning, conversion coating, Type I and Type II anodizing, adhesive bonding and machining. | | |

DEOXIDERS

ETCHANTS

CIC REMOVER

MASKANTS

SURFACE TREATMENTS

Jet Engine Cleaners



| | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | | Temperature | Time | |
|--|------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|------|--------------|---------------------------|-----------|----------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|--|-------------|------|--|
|--|------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|------|--------------|---------------------------|-----------|----------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|--|-------------|------|--|



| Product | Applications | Characteristics | Substrate | Operation | Description |
|---------|--------------|-----------------|-----------|-----------|-------------|
|---------|--------------|-----------------|-----------|-----------|-------------|

| JET ENGINE CLEANERS / COLD LINE | | | | | | |
|---|-------------------------|---|--|-----------------------|--|--|
| Turco® T-4181L™ (Liquid Alkaline Rust Remover) | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion | Process Dependent – See Henkel Representative | Alkaline | 176°F-203°F / 80°C-95°C 15-60 minutes | Turco® T-4181L™ (Liquid Alkaline Rust Remover) is an amber, liquid compound formulated to remove rust, paints, lube oils, drawing pastes, cutting oils and protective oils from ferrous alloys by immersion methods. Will not attack ferrous alloys, magnesium alloys, stainless steels, brass, bronze or Monel alloys when used as directed. Turco® T-4181L™ (Liquid Alkaline Rust Remover) is normally used at 50% to 75% in water at 176°F-203°F/80°C-95°C and can be used on titanium alloys when diluted to 12% to 15% in water at 158°F-167°F/70°C-75°C. |
| Turco® 5668™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion | Add Entire Contents of Container to Stripping Tank | Diphase Liquid | 158°F-203°F / 70°C-80°C 15-60 minutes | Turco® 5668™ is a diphase, liquid paint remover developed to remove resistant coatings, such as aluminized silicones, polyurethanes, acrylics, epoxies and chromated primers without using phenols, chromate, chlorinated solvents or acids. Ideal for the removal of PRC-1560M and PRC-1560MC coatings and is not detrimental to aircraft metals such as aluminum, titanium, magnesium, cadmium, conversion coatings, Dow coatings or ferrous alloys. Meets all requirements of MIL-R-83936B for removal of paint from aircraft wheels, landing gear components, and other aircraft and AGE components. |
| Turco® 5948-DPM™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion, Spray or Mop | Immersion: 11:3-20 Spray/Mop: 1:9-30 | Alkaline, Water-Based | 149°F-176°F / 65°C-80°C Immersion: 5-15 minutes | Turco® 5948-DPM™ is an alkaline, water-based, blue, concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all models of jet aircraft. It is also designed to be used in immersion tanks, for dip applications. |
| Turco® 5948-R™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion, Spray or Mop | 3%-30% in Water | Alkaline, Water-Based | 149°F-176°F / 65°C-80°C Immersion: 5-15 minutes | Turco® 5948-R™ is an alkaline, water-based, blue, concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all aircraft large or small, and for cleaning engine parts during engine overhaul. It is also designed to be used in immersion tanks, for dip applications. |
| Turco® Liquid Sprayze NP-LT™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion or Spray | Immersion: 15%-25% in Water Spray: 3%-10% in Water | Alkaline, Water-Based | 90°F-190°F / 32°C-88°C Immersion: 5-15 minutes Spray: 1-2 minutes | Turco® Liquid Sprayze NP-LT™ is a straw colored liquid, developed to remove shop soil, lube oils, light drawing oils and drawing waxes from ferrous, aluminum, copper and titanium alloys. Suitable for cleaning most magnesium alloys, zinc and cadmium, and is ideal for precleaning metals prior to phosphating and painting. Does not contain free caustic, readily rinses from metal surfaces with room temperature water, and is effective from 32°C to 88°C. |

| JET ENGINE CLEANERS / HOT LINE | | | | | | |
|---|-------------------------|---|---|-----------------------|--|--|
| Turco® T-4181L™ (Liquid Alkaline Rust Remover) | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion | Process Dependent – See Henkel Representative | Alkaline | 176°F-203°F / 80°C-95°C 15-60 minutes | Turco® T-4181L™ (Liquid Alkaline Rust Remover) is an amber, liquid compound formulated to remove rust, paints, lube oils, drawing pastes, cutting oils and protective oils from ferrous alloys by immersion methods. Will not attack ferrous alloys, magnesium alloys, stainless steels, brass, bronze or Monel alloys when used as directed. Turco® T-4181L™ (Liquid Alkaline Rust Remover) is normally used at 50% to 75% in water at 176°F-203°F/80°C-95°C and can be used on titanium alloys when diluted to 12% to 15% in water at 158°F-167°F/70°C-75°C. |
| Turco® 4338 L™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Two-Part, Concentrated Immersion | Part 1: & 2 : 15%-25% by Volume | Alkaline Permanganate | 176°F-203°F / 80°C-95°C 30-60 minutes | Turco® 4338-L™ is a two-part liquid, alkaline permanganate formulation developed specifically for jet engine cleaning. It modifies high temperature heat scale by chemically changing the structure of the oxide deposit to one that is properly conditioned for ease of chemical removal in subsequent processing steps. Approved by Rolls-Royce, GEAE, and Pratt & Whitney. |
| Turco® 4409™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion, Brush or Hand Wipe | 5%-50% in Water | Acidic | Ambient to 140°F/60°C 3-10 minutes | Turco® 4409™ is a clear, colorless liquid acid cleaner and deoxidizer designed for use on ferrous and non-ferrous alloys by immersion, spray and hand wipe methods. It is not intended for use on magnesium alloys and high strength steels. |
| Turco® Rust Bloc | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion or Spray | 0.75%-1.75% in Water | Alkaline | Ambient to 203°F/95°C Varies | Turco® Rust Bloc is an alkaline liquid used as a rust inhibiting rinse additive or cleaner. It provides temporary in-plant rust protection for steel and cast iron. |
| Turco® Scale Gon 5™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion | 20%-30% in Water | Mildly Acidic | 176°F-194°F / 80°C-90°C 30 minutes | Turco® Scale Gon 5™ is an acid-activated, yellow liquid used in the Turco® Jet Engine Process to condition and remove high temperature scale from jet engine parts. Approved by Rolls-Royce, GEAE, and Pratt & Whitney. |
| Turco® Scale Gon 7™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Immersion | 20%-30% in Water | Mildly Acidic | 176°F-194°F / 80°C-90°C 30 minutes | Turco® Scale Gon 7™ is an acid-activated, yellow liquid used in the Turco® Jet Engine Process to condition and remove high temperature scale from jet engine parts. Approved by Rolls-Royce. |

- Typical Cold Line Process:**
- Pre-clean with Turco® Liquid Sprayze NP-LT™, or
 - Dip clean with Turco® 5948-DPM™
 - Rinse
 - Use Turco® 4181L™ to remove dirt and scale from steel and titanium alloys
 - Rinse
 - Use Turco® 5668™ to remove coatings for full inspection

- Typical Hot Line Process:**
- Pre-clean with Turco® Liquid Sprayze NP-LT™
 - Rinse
 - Use Turco® 4181L™ to remove carbon and light scale
 - Rinse
 - Use Turco® Scale Gon 5™ acid-based scale conditioner
 - Rinse
 - Use Turco® 4338-L™ to remove major scale
 - Rinse
 - Use Turco® 4181L™ or Turco® 4409™ to continue scale removal
 - Rinse
 - Apply Turco® Rust Bloc

| COMPRESSOR WASH | | | | | | |
|------------------------|-------------------------|---------------------------|-----------------|-------------------------|------------------------------------|---|
| Turco® 5884™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Spray | 1:1-4 | Alkaline, Solvent-Based | Ambient Approximately 5 minutes | Turco® 5884™ is a concentrated liquid cleaner which is effective in the removal of oil, salt and solid deposits from compressor blades, guide vanes and rotors of in-service jet engines. Periodic cleaning of these components is necessary to avoid power loss, abnormal temperature increases and increased fuel consumption. Approved to MIL-C-85704B Type I. |
| Turco® 6783-10™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Ready-to-Use Spray | Use as Received | Alkaline, Water-Based | Ambient Approximately 5 minutes | Turco® 6783-10™ is an aqueous compressor cleaner which effectively removes oil, salt and solid deposits from compressor blades, guide vanes and rotors of in-service turbine engines. Periodic cleaning of these components is necessary to avoid power loss, abnormal temperature increases, increased fuel consumption and excessive NOx emissions. Supplied in a ready-to-use liquid form. Meets MIL-C-85704B Type II and III. |
| Turco® 6783-50™ | ● ● ● ● ● ● ● ● ● ● ● ● | Liquid Concentrated Spray | 20% in Water | Alkaline, Water-Based | Ambient Approximately 5 minutes | Turco® 6783-50™ is a concentrated, aqueous compressor cleaner that effectively removes oil, salt and solid deposits from compressor blades, guide vanes and rotors of in-service turbine engines. Use at 20% by volume in distilled, demineralized or good drinking quality water. For cold weather (below 0°C), add 20% by volume isopropanol, ethanol or glycol. Meets MIL-C-85704B Type II and III. |

COMPRESSOR WASH

COMPRESSOR WASH

JET ENGINE CLEANERS / COLD LINE

JET ENGINE CLEANERS / HOT LINE

JET ENGINE CLEANERS / COLD LINE

JET ENGINE CLEANERS / HOT LINE

SURFACE TREATMENTS

Conversion Coatings



CONVERSION COATINGS

CONVERSION COATINGS

| Product | Applications | | | | | | | | | | Characteristics | | | | Substrate | | | | | | | | | | Operation | | Description | |
|---|------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|-----------------|----------------------------|---------------------------|--|---------------------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|-------------|------|-------------|-------------------------|--|---|
| Product | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | Temperature | Time | Description | | | |
| CONVERSION COATINGS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Alodine® 120™ Brush Kit | ● | | | ● | | | | | | | Liquid | Ready-to-Use Two-Part Kit | Kit | Use as Received | Chromate | ● | | | | | | | | | | Ambient | Until Dry | Alodine® 120™ Brush Kit contains products formulated for treating aluminum to conform to MIL-C-5541C, Class 1A. This kit contains sufficient chemicals for cleaning and coating approximately 100 square feet of aluminum surface when used under normal conditions and in accordance with the directions. |
| Alodine® 600™ | ● | | | ● | | | | | | | Powder | Concentrated | Immersion or Spray | 12.5 lbs per 100 gals Water | Chromate No Cyanide | ● | | | | | | | | | | 70°F-100°F 21°C-38°C | 1-5 minutes | Alodine® 600™ is a powdered chemical used to produce a chromate conversion coating on aluminum and its alloys, which ranges in color from light, iridescent gold to tan. Alodine® 600™ can be applied by immersion or spray method, does not contain complex cyanides, and is particularly recommended where a low dielectric resistance coating is desired. Approved under MIL-DTL-81706B for use by Application Methods A and C, classes 1A and 3. Listing on QPL 81706 indicates its acceptance under the MIL-C-5541 document of current issue. |
| Alodine® 600™ RTU | | | | ● | | | | | | | Liquid | Ready-to-Use | Immersion or Spray | Use as Received | Chromate No Cyanide | ● | | | | | | | | | | 70°F-100°F 21°C-38°C | Immersion: 2-5 minutes Spray: 15-30 seconds | Alodine® 600™ RTU is a ready-to-use, liquid product which produces a chromate conversion coating on aluminum and its alloys. The coating produced provides excellent protection for unpainted aluminum and bonds paint well. |
| Alodine® 1000™ RTU | ● | | | ● | | | | | | | Liquid | Ready-to-Use | Brush or Spray | Use as Received | Chromate | ● | | | | | | | | | | Ambient | 1-3 minutes | Alodine® 1000™ RTU is a ready-to-use, aqueous solution for producing a protective coating on aluminum and its alloys. The coating provides excellent protection for painted and unpainted aluminum and bonds paint well. It is specifically designed for touching-up abraded or damaged areas on work previously treated with Alodine® coating chemicals. |
| Alodine® 1200S™ | ● | | | ● | | | | | | | Powder | Concentrated | Immersion | 6.3 lbs per 100 gals Water | - | ● | | | | | | | | | | 70°F-100°F 21°C-38°C | 15 seconds - 3 minutes | Alodine® 1200S™ is a powdered chemical used to produce a protective coating on aluminum to minimize corrosion and provide an improved bond for paint. Alodine® 1200S™ coating is chemically listed on Qualified Product List QPL-81706, and is an approved material to produce Class 1A and Class 3 coatings, bare or painted, in accordance with Military Specifications MIL C-5541C. |
| Alodine® 1201™ | ● | | | ● | | | | | | | Liquid | Brush: Ready-to-Use | Brush or Immersion | Immersion: 33 parts - Alodine® 1201™ 67 parts - Water | Chromic-Acid-Based | ● | | | | | | | | | | Ambient to 100°F / 38°C | 2-5 minutes | Alodine® 1201™ is a nonflammable, chromic-acid-based, coating chemical that will produce a chrome conversion coating on aluminum and its alloys. |
| Alodine® 1500™ | ● | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 1 gal per 100 gals Water | - | ● | | | | | | | | | | 70°F-160°F 21°C-71°C | IMMERSION: 2-5 minutes SPRAY: 15-30 seconds | Alodine® 1500™ is a liquid chemical used to produce a protective coating on aluminum or aluminum alloys. The coating provides protection for aluminum and is an excellent bond for clear organic coatings. Alodine® 1500™ should be used when the characteristic aluminum appearance must be retained. Listed on the register for QPL-MIL-C-81706 and is approved to be used by Methods A and C (spray and immersion processing) to produce class 3 coatings in accordance with Military Specification MIL-C-5541 (current issue). May also be used to process aluminum under Specification MIL-S-5002. |
| Alodine® 1600™ Alodine® 1600™ Additive | ● | | | | | | | | | | Liquid | Concentrated, Two Packages | Immersion or Spray | 0.65 gals - Alodine® 1600™ 1.3-2.0 gals - Alodine® 1660™ per 100 gals Water | Chromate | ● | | | | | | | | | | 60°F-130°F 16°C-54°C | 1-5 minutes | Alodine® 1600™ is a concentrated liquid, two-package chemical used to produce a chromate conversion coating on aluminum and all its alloys. The color ranges from light iridescent gold to tan. Alodine® 1600™ does not contain complex cyanides. Approved for use under MIL-DTL-81706B, formally MIL-C-81706, Classes 1A and 3, Form, I, Method C and Boeing BAC-5719. |
| Alodine® 5200™ | ● | | | | | | | | | | Liquid | Concentrated | Immersion or Spray | 1.5-7.5 gals per 100 gals Water | Organo-Metallic | ● | ● | ● | | | | | | | | 70°F-120°F 21°C-49°C | 1-5 minutes | Alodine® 5200™ treatment is a chromium-free product specifically formulated for treating non-ferrous alloys. Spray or immersion applications may be used. This process provides an excellent base for bonding of adhesives and organic finishes. |
| Alodine® 5700™ | | | | ● | | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Organo-Metallic | ● | ● | ● | | | | | | | | Ambient to 100°F/38°C | 2-5 minutes | Alodine® 5700™ is a chromium-free conversion coating specifically formulated for treating aluminum and its alloys. This product is formulated as a ready-to-use material for spray applications. The process provides an excellent base for organic finishes. |
| Alodine® Magnesium Treatment Kit | ● | | | ● | | | | | | | Liquid | Ready-to-Use Two-Part Kit | Kit | Use as Received | Chromate | | ● | | | | | | | | | Ambient | Until Dry | The Alodine® Magnesium Treatment Kit contains products formulated for treating magnesium alloys to produce a chromate conversion coating conforming to SAE AMS-M-3171, Type VI. The application method conforms to requirements in NAVAIR 01-1A-509 and is meant primarily for touch-up, corrosion repair processes of magnesium alloys. |
| Alodine® T 5900™ | ● | | | ● | | | | | | | Liquid | Concentrated | Spray, Brush or Immersion | Alodine® T 5900™ 5.0 gals per 100 gals Alodine® T 5900™ Toner 1.0 gals per 100 gals | Tri-Chrome | ● | ● | ● | | | | | | | | 70°F-90°F 21°C-32°C | 7-10 minutes | Alodine® T 5900™ treatment is a complex, trivalent chromium conversion coating formulated for treating aluminum and its alloys, metals coated with IVD aluminum, magnesium, titanium and zinc surfaces. The process provides bare ASTM-B117 salt spray resistance and it serves as an excellent base for bonding of paint and adhesives. Neither the product itself, nor the conversion coating developed by the process, contain hexavalent chromium. Alodine® T 5900™ can be used in immersion or pressure spray washers. Alodine® T 5900™ is approved to MIL-DTL-81706B. |
| Alodine® T 5900™ RTU | ● | | | ● | | | | | | | Liquid | Ready-to-Use | Spray, Brush or Immersion | Use as Received | Tri-Chrome | ● | ● | ● | | | | | | | | 70°F-90°F 21°C-32°C | 7-10 minutes | Alodine® T 5900™ RTU treatment is a complex, trivalent chromium conversion coating formulated for treating aluminum and its alloys, metals coated with IVD aluminum, magnesium, titanium and zinc surfaces. This Henkel product is formulated as a ready-to-use material for manual spray applications. The process provides bare ASTM-B-117 salt spray resistance and it also serves as an excellent base for organic finishes and adhesives. Alodine® T 5900™ RTU is approved to MIL-DTL-81706B. |
| Alodine® 871™ Touch-N-Prep® Coating | ● | | | | | | | | | | Liquid | Ready-to-Use | Pen | Use as Received | Tri-Chrome | ● | | | | | | | | | | Ambient | Until Dry | Alodine® 871™ Touch-N-Prep® Coating is a non-hexavalent, chromium, dry-in-place conversion coating designed for use on aluminum and its alloys. The applicator used to deliver this product provides an easy and safe method of repairing bare areas of aluminum surfaces. Alodine® 871™ Touch-N-Prep® Coating is formulated for both bare corrosion protection, such as ASTM 921-02, and bonding applications when combined with organic coatings or structural adhesives. |
| Alodine® 1132™ Touch-N-Prep® Coating | ● | | | ● | | | | | | | Liquid | Ready-to-Use | Pen | Use as Received | Chromate | ● | | | | | | | | | | Ambient | Until Dry | Alodine® 1132™ Touch-N-Prep® Coating is a felt-tipped marker that provides a chromate conversion coating on aluminum surfaces prior to painting. Meets MIL-DTL-81706B, Class 1A & 3, Form VI, Method D. Ideal for coating repair work. |

SURFACE TREATMENTS

Landing Gear, Flap and Wheel Well, Wheel and Brake, Exterior Wash and Removed Components



LANDING GEAR

LANDING GEAR

WHEEL AND BRAKE

WHEEL AND BRAKE

EXTERIOR WASH

EXTERIOR WASH



REMOVED COMPONENTS

REMOVED COMPONENTS

| | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | Temperature | Time | KRAYDEN, INC. AUTHORIZED DISTRIBUTOR 1-800-448-0406 | |
|----------------------------|-------------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|--------------|-------------------------|---|----------------------------------|----------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|--|--|--|--------------|
| | | | | | | | | | | | | | | | | | | | | | | | | | Product | Applications |
| LANDING GEAR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® 5351™ Thin | ● | ● | | | | | | | Liquid | Ready-to-Use | Immersion | Diphase Liquid – Add Entire Contents of Container to Stripping Tank | Neutral Methylene Chloride Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 5351™ Thin is an amber, diphase liquid developed to remove epoxy, polyurethane and other catalyzed finishes from ferrous and non-ferrous surfaces. Does not contain free acidic or alkaline constituents and is approved for use on high strength steels. Should not be used on materials that are affected by chlorinated hydrocarbons. | |
| | Turco® 5668™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Immersion | Diphase Liquid – Add Entire Contents of Container to Stripping Tank | Alkaline | ● | ● | ● | ● | ● | ● | ● | | 158°F-176°F 70°C-80°C | 15-60 minutes | Turco® 5668™ is a diphase, liquid paint remover developed to remove resistant coatings, such as aluminized silicones, polyurethanes, acrylics, epoxies and chromated primers without using phenols, chromate, chlorinated solvents or acids. Ideal for the removal of PRC-1560M and PRC-1560MC coatings and is not detrimental to aircraft metals such as aluminum, titanium, magnesium, cadmium, conversion coatings, Dow coatings or ferrous alloys. Meets all requirements of MIL-R-83936B for removal of paint from aircraft wheels, landing gear components, and other aircraft and AGE components. | |
| | Turco® 5805™ | | ● | ● | | ● | | | | Liquid | Ready-to-Use | Spray | Use as Received | Alkaline | ● | ● | ● | ● | ● | ● | ● | | Ambient | 15-30 minutes | Turco® 5805™ is a clear viscous liquid, developed specifically for cleaning and brightening jet engine thrust reversers, cowling, landing gears, etc., during overhaul. | |
| | Turco® 5948-DPM™ Thick | | ● | ● | | ● | | | | Liquid | Concentrated | Spray or Mop | Use as Received | Alkaline, Water-Based | ● | | ● | ● | ● | ● | ● | | Greater than 65°F/18°C | 5-15 minutes | Turco® 5948-DPM™ Thick is an environmentally advantaged, thixotropic, water-based, heavy duty aircraft cleaner. It is a blue, viscous, alkaline, concentrated compound formulated to effectively cling to painted and unpainted aircraft exterior and interior surfaces. Ideally suited for use on all jets, especially in baggage bins, flap and wheel well areas, and on engines before overhaul. | |
| FLAP AND WHEEL WELL | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® 5948-DPM™ Thick | | ● | ● | | ● | | | | Liquid | Concentrated | Spray or Mop | Use as Received | Alkaline, Water-Based | ● | | ● | ● | ● | ● | ● | | Greater than 65°F/18°C | 5-15 minutes | Turco® 5948-DPM™ Thick is an environmentally advantaged, thixotropic, water-based, heavy duty aircraft cleaner. It is a blue, viscous, alkaline, concentrated compound formulated to effectively cling to painted and unpainted aircraft exterior and interior surfaces. Ideally suited for use on all jets, especially in baggage bins, flap and wheel well areas, and on engines before overhaul. | |
| WHEEL AND BRAKE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® Rust Bloc | ● | ● | ● | | | | | | Liquid | Concentrated | Immersion or Spray | 0.75%-1.75% in Water | Alkaline | ● | ● | ● | ● | ● | ● | ● | | Ambient to 203°F/95°C | Varies | Turco® Rust Bloc is an alkaline liquid used as a rust inhibiting rinse additive or cleaner. It provides temporary in-plant rust protection for steel and cast iron. | |
| | Turco® 5668™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Immersion | Diphase Liquid – Add Entire Contents of Container to Stripping Tank | Alkaline | ● | ● | ● | ● | ● | ● | ● | | 158°F-176°F 70°C-80°C | 15-60 minutes | Turco® 5668™ is a diphase, liquid paint remover developed to remove resistant coatings, such as aluminized silicones, polyurethanes, acrylics, epoxies and chromated primers without using phenols, chromate, chlorinated solvents or acids. Ideal for the removal of PRC-1560M and PRC-1560MC coatings and is not detrimental to aircraft metals such as aluminum, titanium, magnesium, cadmium, conversion coatings, Dow coatings or ferrous alloys. Meets all requirements of MIL-R-83936B for removal of paint from aircraft wheels, landing gear components, and other aircraft and AGE components. | |
| | Turco® 6751-L™ | ● | | ● | | | | | | Liquid | Concentrated | Spray | 1%-4% in Water | Alkaline | ● | ● | ● | ● | ● | ● | ● | | 86°F-140°F 30°C-60°C | 1-2 minutes | Turco® 6751-L™ is a liquid alkaline, low temperature cleaner for spray applications. It is a brown colored liquid, developed to remove shop soils, lube oils, light drawing oils and drawing waxes from ferrous and nonferrous metals. Rinses from metal surfaces with room temperature water and is effective from 86°-140°F / 30°-60°C. | |
| | Turco® Aviation | ● | | ● | | | | | | Powder | Concentrated | Immersion or Spray | Immersion: 30-60 g/L Spray: 7.5-15 g/L | Alkaline | ● | ● | ● | ● | ● | ● | ● | | Immersion: 167°F-185°F 75°C-85°C Spray: 158°F-167°F 70°C-75°C | Immersion: 2-10 minutes Spray: 30 second to 2 minutes | Turco® Aviation is a white, granulated, alkaline compound formulated for the removal of mill inks, oils, shop soils and other difficult-to-remove soils from aluminum, steel, copper, magnesium, cadmium and nickel alloys. | |
| | Turco® Liquid Sprayeze NP-LT™ | ● | ● | ● | | | | | | Liquid | Concentrated | Immersion or Spray | Immersion: 15%-25% in Water Spray: 3%-10% in Water | Alkaline | ● | | ● | ● | ● | ● | ● | | 90°F-190°F 32°C-88°C | Immersion: 5-30 minutes Spray: 1-2 minutes | Turco® Liquid Sprayeze NP-LT™ is a straw colored liquid, developed to remove shop soil, lube oils, light drawing oils and drawing waxes from ferrous, aluminum, copper and titanium alloys. Suitable for cleaning most magnesium alloys, zinc and cadmium, and is ideal for precleaning metals prior to phosphating and painting. Does not contain free caustic, readily rinses from metal surfaces with room temperature water, and is effective from 90°-190°F / 32°-88°C. | |
| EXTERIOR WASH | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® Aerowash® | ● | ● | ● | ● | | | | | Liquid | Concentrated | Spray or Mop | 5%-30% in Water, Depending Upon Soil | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® Aerowash® is a concentrated liquid, all-purpose maintenance cleaner. It contains a unique blend of alkaline materials, solvents and surfactants, which makes this product highly effective against a wide variety of soils. Turco® Aerowash® is safe to use on all metals, glass, painted surfaces and plastics. | |
| | Turco® Air-Tec #23™ | | | | | ● | | | | Liquid | Concentrated | Spray or Foam | 1 Part Concentrate to 3-15 Parts Water | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® Air Tec #23™ is a clear, straw colored, alkaline concentrate designed to be diluted with water to clean painted and unpainted exterior aircraft surfaces by spraying or foaming methods. Meets requirements of MIL-C-87936A, Type I. | |
| | Turco® 5948-DPM™ | | ● | ● | ● | ● | | | | Liquid | Concentrated | Spray or Mop | 1 Part Concentrate to 9-30 Parts Water | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 5948-DPM™ is an alkaline, water-based, blue concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all models of jet aircraft. It is also designed to be used in immersion tanks, for dip applications. | |
| | Turco® 5948-DPM™ Thick | | ● | ● | | ● | | | | Liquid | Concentrated | Spray or Mop | Use as Received | Alkaline, Water-Based | ● | | ● | ● | ● | ● | ● | | Greater than 65°F/18°C | 5-15 minutes | Turco® 5948-DPM™ Thick is a blue, viscous, alkaline, water-based, concentrated compound formulated to effectively cling to painted and unpainted aircraft exterior and interior surfaces. Turco® 5948-DPM™ Thick is ideally suited for use on all jets, especially in baggage bins, flap and wheel well areas, and on engines before overhaul. | |
| | Turco® 5948-R™ | | ● | ● | ● | ● | | | | Liquid | Concentrated | Spray or Mop | 3%-30% in Water | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 5948-R™ is an alkaline, water-based, blue, concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all aircraft large or small, and for cleaning engine parts during engine overhaul. It is also designed to be used in immersion tanks, for dip applications. | |
| REMOVED COMPONENTS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® 5948-DPM™ | ● | ● | ● | ● | ● | | | | Liquid | Concentrated | Immersion, Spray or Mop | Immersion: 1:3-20 Spray: 1:9-30 | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | 149°F-176°F 65°C-80°C | Immersion: 5-15 minutes | Turco® 5948-DPM™ is an alkaline, water-based, blue concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all models of jet aircraft. It is also designed to be used in immersion tanks, for dip applications. | |
| | Turco® 5948-R™ | ● | ● | ● | ● | ● | | | | Liquid | Concentrated | Immersion, Spray or Mop | 3%-30% in Water | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | 149°F-176°F 65°C-80°C | Immersion: 5-15 minutes | Turco® 5948-R™ is an alkaline, water-based, blue, concentrated compound formulated to effectively clean painted and unpainted aircraft exterior and interior surfaces when diluted with water. Ideally suited for use on all aircraft large or small, and for cleaning engine parts during engine overhaul. It is also designed to be used in immersion tanks, for dip applications. | |
| | Turco® 9045-6™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Immersion | Use as Received | Water-Based | | | | ● | ● | ● | | | 104°F-140°F 40°C-60°C | 30 minutes to 2 hours | Turco® 9045-6™ is a unique, water-based, carbon remover used to remove carbon deposits and difficult-to-remove soils found in aircraft engines. It cleans engine blocks, pistons, carburetors, transmissions, and brake assemblies. It is an effective carbon remover for jet engine overhaul. It may also remove some paints. | |

SURFACE TREATMENTS

Accessory Shops and Chemical Specialties

| | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | Temperature | Time |  | |  |
|-----------------------------|-------------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|--------------|-----------------------------------|---|-----------------------|----------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|-------------|--|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | Product | Applications | |
| ACCESSORY SHOPS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® Aquasorb | ● | ● | | | | | | | Liquid | Ready-to-Use | Immersion, Brush or Spray | Use as Received | Petroleum Solvent | ● | ● | ● | ● | ● | ● | ● | | | Ambient | Approx. 5 minutes | Turco® Aquasorb is a clear, amber liquid, formulated to impart short-term rust and corrosion protection to both ferrous and nonferrous metals during manufacturing and overhaul. It displaces water from metal surfaces, leaving an oil-like protective film, which prevents corrosion and rusting under humid conditions. Ideal for post oil treatments, such as phosphate, and is often used on aircraft engine and wheel bearings and similar components after rework. | |
| | Turco® Aviation | ● | | ● | | | | | | Powder | Concentrated | Immersion or Spray | Immersion: 30-60 g/L Spray: 7.5-15 g/L | Alkaline | ● | ● | ● | ● | ● | ● | ● | | | Immersion: 167°F-185°F 75°C-85°C Spray: 158°F-167°F 70°C-75°C | Immersion: 2-10 minutes Spray: 30 seconds to 2 minutes | Turco® Aviation is a white, granulated, alkaline compound formulated for the removal of mill inks, oils, shop soils and other difficult-to-remove soils from aluminum, steel, copper, magnesium, cadmium and nickel alloys. | |
| | Turco® 4215 NC-LT™ | ● | ● | ● | | | | | | Powder | Concentrated | Immersion, Spray or Ultrasonic | Immersion: 45-60 g/L Spray: 7-15 g/L Ultrasonic: 3-15 g/L | Mildly Alkaline | ● | | ● | ● | ● | ● | ● | | | 113°F-131°F 45°C-55°C | Immersion: 5-10 minutes Spray: 2-4 minutes | Turco® 4215 NC-LT™ is a white, granular mix developed for cleaning ferrous and nonferrous alloys by spray, immersion and ultrasonic methods at low temperatures. Ideal for cleaning fuel and hydraulic components and for cleaning metals prior to metal bonding. | |
| | Turco® 5805™ | | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Alkaline | ● | ● | ● | ● | ● | ● | ● | | | Ambient | 15-30 minutes | Turco® 5805™ is a clear, viscous liquid, developed specifically for cleaning and brightening jet engine thrust reversers, cowling, landing gears, etc., during overhaul. | |
| | Turco® 5948-DPM™ Thick | | ● | ● | | ● | | | | Liquid | Concentrated | Spray or Mop | Use as Received | Alkaline, Water-Based | ● | | ● | ● | ● | ● | ● | | | Greater than 65°F/18°C | 5-15 minutes | Turco® 5948-DPM™ Thick is an environmentally advantaged, thixotropic, water-based, heavy duty aircraft cleaner. It is a blue, viscous, alkaline, concentrated compound formulated to effectively cling to painted and unpainted aircraft exterior and interior surfaces. Ideally suited for use on all jets, especially in baggage bins, flap and wheel well areas, and on engines before overhaul. | |
| | Turco® 6802™ | | ● | | | | | | | Liquid | Ready-to-Use | Immersion | Use as Received | Solvent Based | ● | ● | ● | ● | ● | ● | ● | | | Maximum 257°F/125°C | Time for Wax to Melt or Dissolve | Turco® 6802™ is a clear, amber liquid developed to remove platter's wax (such as Rigidex) and similar low melting stop-off compounds by immersion in the heated product. It is free of chlorinated hydrocarbons, phenols and chromate. Turco® 6802™ can be used on all metals. | |
| | Turco® 9045-6™ | | ● | ● | | | | | | Liquid | Ready-to-Use | Immersion | Use as Received | Water-Based | | | | ● | ● | ● | | | | 104°F-140°F 40°C-60°C | 30 minutes to 2 hours | Turco® 9045-6™ is a unique water-based, carbon remover used to remove carbon deposits and difficult-to-remove soils found in aircraft engines. It cleans engine blocks, pistons, carburetors, transmissions, and brake assemblies. It is an effective carbon remover for jet engine overhaul. It may also remove some paints. | |
| CHEMICAL SPECIALTIES | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | P3® 2469™ White Tacky Masking | | | | | | | | ● | Liquid | Concentrate | Airless Spray | N/A | Solvent | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | The P3® 2469™ White Tacky Masking is a very tacky, white, water-based, paint spray booth wall masking designed to be removed by scraping or by cold water spray. This product is used to protect booth walls and center track conveyor covers from paint overspray. It substantially reduces the amount of time necessary to remove paint overspray. It also reduces the amount of paint strippers that may be used in booth cleaning operations. P3® 2469™ White Tacky Masking is bright white and light reflective to maximize booth illumination. The masking remains very tacky and moist, making it especially suited for modular paint booths and robotic painting operations. The masking is readily removed with low to moderate pressure, water spray or manual scraping. P3® 2469™ White Tacky Masking is designed for use in water spray booths. For dry booths, consult your representative for a peelable booth masking. | |
| | P3® 2485A™ Clear Masking | | | | | | | | ● | Liquid | Concentrate | Airless Spray | N/A | Solvent | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2485A™ Clear Masking is used as a water removable, temporary protective coating for spray booth windows, walls, and grates where overspray accumulation must be readily removed. This clear coating is designed to not alter the appearance of the original substrate on which it was applied. The composition of the masking inhibits the rusting of steel. P3® 2485A™ Clear Masking forms a non-clouding flexible film. For dry booths, consult your representative for a peelable booth masking. | |
| | P3® 2455™ Baffle Coating | | | | | | | | ● | Paste | Concentrate | Airless Spray/Paste | N/A | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2455™ Baffle Coating is a water-based, thickened, blue coating for the protection of paint or unpainted surfaces from scratches, chips and environmental effects. An alkaline material, such as an alkaline cleaner, can remove the coating. | |
| | Parcosol® 283™ | | | | | | | | ● | Liquid | Concentrate | Wipe/Internally Through Equipment | N/A | Solvent | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | Parcosol® 283™ is HAPs Free (Hazardous Air Pollutant), 2°F flash point, organic solvent blend used for internal and external cleaning of solvent-borne paint application equipment. The blend contains a synergistic combination of solvents, which results in decreasing the time necessary to dissolve 1K or 2K solvent-based paints. Parcosol® 283™ is specifically formulated with components that can extend or prevent the gel point of 2K paint systems. The low viscosity, rapid evaporation rate, and aggressive cleaning characteristics allow for a wide range of uses. It is necessary to observe all safe handling practices, as this material is extremely flammable. | |
| | Parcosol® 307™ | | | | | | | | ● | Liquid | Concentrate | Wipe/Internally Through Equipment | N/A | Solvent | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | Parcosol® 307™ is HAPs compliant (Hazardous Air Pollutant), 60°F flash point, organic solvent blend used for internal and external cleaning of solvent-borne paint application equipment. The blend contains a combination of solvents, which results in decreasing the time necessary to dissolve solvent-based paints. The low viscosity, rapid evaporation rate, and aggressive cleaning characteristics allow for a wide range of uses. The solvent blend resistivity is greater than 1.0 Mohm making it safe for critical electrostatic equipment applications. It is necessary to observe all safe handling practices, as this material is extremely flammable. | |
| | Parcosol® 577WB™ | | | | | | | | ● | Liquid | Concentrate | Wipe/Internally Through Equipment | 10%-50% | Waterborne/Amine | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | Parcosol® 577WB™ is a HAPs Free, low VOC, water soluble proprietary activator/amine purge blend used for internal and external cleaning of waterborne paint application equipment. The new product is specifically formulated to work more effectively at removing wet, semi-dry and dry waterborne paint from bell or air atomized paint delivery equipment. Its aggressive cleaning characteristics allow for a wide range of uses to clean or remove waterborne paint. The cleaning solution works effectively both internally and externally to clean bell atomizing and air atomized spray caps. This product is very low foaming, making it compatible with most paint detachment processes. The Parcosol® 577WB™ cleaning ability improves with higher temperature and concentration levels. Parcosol® 577WB™ has been specifically formulated to work aggressively at room temperature versus other typical waterborne purge products. This product has been formulated to aid in lubricity and corrosion resistance to aluminum to prolong the life of crystal cap wash boxes or aluminum bells. It is necessary to observe all safe handling practices. | |
| | P3® 2474™ Peelable Masking | | | | | | | | ● | Liquid | Concentrate | Roller/Brush | N/A | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2474™ Peelable Masking is a white, waterborne, low VOC material designed for easy application to walls and floors of paint spray booths. The resultant film protects the walls and floors of the spray booth from paint overspray and yet maintains its integrity by not allowing solvent penetration. It can be quickly peeled from any surface, even when heavily laden with overspray. | |
| | P3® 2486™ Peelable Masking | | | | | | | | ● | Liquid | Concentrate | Roller/Brush | N/A | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2486™ Peelable Masking is a gray, waterborne, zero VOC material designed for easy application to walls and floors of paint spray booths and surrounding area. The resultant film protects the walls and floors of the spray booth area from paint overspray and yet maintains its integrity by not allowing solvent penetration. It can be quickly peeled from any surface, even when heavily laden with overspray. | |
| | P3® 2498™ Peelable Masking | | | | | | | | ● | Liquid | Concentrate | Roller/Brush | N/A | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2498™ Peelable Masking is a clear, waterborne, low VOC material designed for easy application to walls and floors of paint spray booths. The resultant film protects the walls and floors of the spray booth from paint overspray and yet maintains its integrity by not allowing solvent penetration. It can be quickly peeled from any surface, even when heavily laden with overspray. | |
| | P3® 116™ Saf-T-Clean | | | | | | | | ● | Liquid | Concentrate | Mop/Scrubber | 10%-50% | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 116™ Saf-T-Clean is a low to zero foam, HAPs free, non-corrosive (pH<12) water-based cleaner for uncured paint. Test data shows significantly better cleaning performance at all dilution levels than the P3® 113™ Saf-T-Clean product line. | |
| | P3® 104™ Saf-T-Clean | | | | | | | | ● | Liquid | Concentrate | Mop | N/A | Solvent | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 104™ Saf-T-Clean is a low odor, blended solvent for removal of paints and other soils from the floor in the spray booth area of an automotive assembly plant. It is usually applied by hand using a sponge, cloth or mop. | |
| | P3® 2226™ Maintenance Cleaner | | | | | | | | ● | Liquid | Concentrate | Mop/Scrubber | 10%-50% | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2226™ Maintenance Cleaner is a liquid cleaner for the removal of soils from floors, walls, windows, machinery and other hard surfaces. It is designed to leave no visible residue if a water rinse does not follow the cleaning operation. P3® 2226™ Maintenance Cleaner is usually applied manually by sponge, cloth or mop, but it may also be used in floor scrubbing machines. P3® 2226™ Maintenance Cleaner is safe on all commonly encountered metals, including aluminum and zinc. | |
| | P3® 2227A™ Oven Cleaner | | | | | | | | ● | Liquid | Concentrate | Airless Sprayer | N/A | Waterborne | ● | ● | ● | ● | ● | ● | ● | | | N/A | N/A | P3® 2227A™ Oven Cleaner is especially formulated for removal of e-coat, primer and top coat resins, plasticizers and other charred, hard-crusted soils found in the ovens of automotive and general industrial plants. This material is safe for use on aluminum and galvanized surfaces. | |

Typical Paint Stripping Process:

1. Protect surfaces that will not be stripped.
2. Apply either an acid, alkaline, or peroxide paint stripper to surface. See above list.
3. Agitate paint surface with stiff brush. Squeegee off loosened paint and rinse.
4. Follow with Turco® 5948-DPM™ to wash prior to etching.
5. Rinse.
6. Use Turco® Metal Glo #6™ to etch metal prior to conversion coating. Follow Turco® Metal Glo #6™ application instructions.

ACCESSORY SHOPS

CHEMICAL SPECIALTIES

ACCESSORY SHOPS

CHEMICAL SPECIALTIES

SURFACE TREATMENTS

Paint Strippers, TPC Remover, and Machine and Grinding Fluids



PAINT STRIPPERS

PAINT STRIPPERS

TPC REMOVER

TPC REMOVER

MACHINE & GRINDING FLUIDS

MACHINE & GRINDING FLUIDS

| | Metal Processing Lines | Jet Engine Cleaning | Aircraft Parts Cleaning | Aircraft Depaint & Repaint | Coolants | Aircraft Appearance | Aircraft Protection | Composite Applications | Maintenance & Production Aides | Consistency | Form | How to Apply | Mix Ratio (product:water) | Chemistry | Aluminum | Composite Materials | Magnesium | Stainless Steel | Titanium | Ferrous | Non-Ferrous | See Technical Data Sheet | Temperature | Time | Description | |
|--------------------------------------|----------------------------|---------------------|-------------------------|----------------------------|----------|---------------------|---------------------|------------------------|--------------------------------|-------------|----------------------|------------------------|---|----------------------------------|----------|---------------------|-----------|-----------------|----------|---------|-------------|--------------------------|--------------------------|---------------|---|---------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | Product |
| PAINT STRIPPERS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® 1270-6™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Alkaline | ● | ● | | | | | | | Ambient | Varies | Turco® 1270-6™ is a viscous, white emulsion that does not contain any of the hazardous or highly toxic components of conventional paint removers. It is free of aromatic hydrocarbons, chlorinated solvents, phenol, and chromates. Turco® 1270-6™ was developed as a paint softener to be used in combination with blast media and high pressure water. However, with sufficient time and/or elevated temperatures, Turco® 1270-6™ can remove selected paint systems without the necessity for blasting or high pressure rinsing. It is particularly effective in selective removal of topcoats from painted composites which employ a "nylon type" intermediate barrier coat. For other systems, both the topcoat and the intermediate primer may be removed leaving the chromated primer intact. | |
| | Turco® 5351™ (T-5469™) | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Immersion | Use as Received | Neutral Methylene-Chloride-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 5351™ (T-5469™) is a yellow, viscous paint remover developed to remove epoxy, polyurethane and similar coatings from metal surfaces at ambient temperatures. Turco® 5351™ (T-5469™) clings to vertical and overhead surfaces and forms a surface film that helps retard evaporation and extend the working life of the stripper. Turco® 5351™ (T-5469™) should not be used on materials that are affected by chlorinated hydrocarbons. | |
| | Turco® 5351™ Thin | ● | ● | | | | | | | Liquid | Ready-to-Use | Immersion | Diphase Liquid – Add Entire Contents of Container to Stripping Tank | Neutral Methylene-Chloride-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 5351™ Thin is an amber, diphase liquid developed to remove epoxy, polyurethane and other catalyzed finishes from ferrous and non-ferrous surfaces. Does not contain free acidic or alkaline constituents and is approved for use on high strength steels. Should not be used on materials that are affected by chlorinated hydrocarbons. | |
| | Turco® 5668™ | ● | ● | ● | | | | | | Liquid | Concentrated | Immersion | Diphase Liquid – Add Entire Contents of Container to Stripping Tank | Alkaline | ● | ● | ● | ● | ● | ● | ● | | 158°F-176°F 70°C-80°C | 15-60 minutes | Turco® 5668™ is a diphase, liquid paint remover developed to remove resistant coatings, such as aluminized silicones, polyurethanes, acrylics, epoxies and chromated primers without using phenols, chromate, chlorinated solvents or acids. Ideal for the removal of PRC-1560M and PRC-1560MC coatings and is not detrimental to aircraft metals such as aluminum, titanium, magnesium, cadmium, conversion coatings, Dow coatings or ferrous alloys. Meets all requirements of MIL-R-83936B for removal of paint from aircraft wheels, landing gear components, and other aircraft and AGE components. | |
| | Turco® 6088-A™ Thin | ● | ● | | | | | | | Liquid | Ready-to-Use | Immersion | Use as Received | Acidic | ● | | ● | | ● | ● | | | 68°F-140°F 20°C-60°C | As Needed | Turco® 6088-A™ Thin is a light amber, thin liquid developed for removing chemical resistant paints, such as epoxies, polyurethanes and epoxy primers, from aluminum alloys, mild steels and cast irons by immersion methods. | |
| | Turco® 6776-LO™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Acidic | ● | | ● | ● | ● | | | | Ambient | Varies | Turco® 6776-LO™ environmentally advantaged paint remover is low odor, thixotropic and developed for effective stripping of such resistant finishes such as epoxies, epoxy primers, polyurethanes, and similar catalyzed paints. Offers a significant advance in work place safety. Does not contain methylene chloride, chlorinated solvents, phenols, chromates, ammonia or amines. Complies fully with the aircraft/aerospace NESHAP. Can be used on aluminum, mild steel, cast iron, and titanium when used as directed. Not recommended for use on high strength steel or magnesium. Meets the "Effect on Metals" requirements of MIL-R-81903A. | |
| | Turco® 6776™ Thin | ● | ● | | | | | | | Liquid | Diphase Ready-to-Use | Immersion | Use as Received | Acid Activated | ● | | ● | | ● | | | | 68°F-100°F 20°C-40°C | As Needed | Turco® 6776™ Thin is a light amber, diphase liquid developed for removing chemical resistant paints, such as epoxies, polyurethanes and epoxy primers, from aluminum alloys, mild steels and cast iron by immersion. It operates with an oil seal to reduce odors. | |
| | Turco® 6813-E™ | ● | ● | ● | ● | | | | | Liquid | Ready-to-Use | Spray or Brush | Use as Received | Alkaline, Water-Based | ● | ● | ● | ● | ● | ● | ● | | Ambient | Varies | Turco® 6813-E™ water-based, environmentally advantaged, paint remover is a viscous, pink liquid formulated to remove multiple coats of aircraft paints, such as epoxies and polyurethanes, including such resistant primers as Koroflex. Clings to vertical as well as overhead surfaces and can be used on aluminum, magnesium, cadmium plated steels and other ferrous metals. | |
| | Turco® 6813-ED™ | ● | ● | | | | | | | Liquid | Ready-to-Use | Spray or Brush | Use as Received | Alkaline, Water-Based | ● | ● | ● | | ● | | | | Ambient | Varies | Turco® 6813-ED™ is a viscous, blue-green liquid formulated to remove multiple coats of aircraft paints, such as epoxies and polyurethanes, including such resistant primers as Koroflex. Turco® 6813-ED™ paint remover clings to vertical as well as overhead surfaces and can be used on aluminum, magnesium, cadmium plated steels and other ferrous metals. | |
| | Turco® 6877™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Acidic, Water-Based | ● | | ● | ● | ● | | | | Ambient | As Needed | Turco® 6877™ is a long acting, low odor, thixotropic paint remover developed for more effective stripping of resistant finishes such as epoxies, epoxy primers, polyurethanes, and similar catalyzed paints. Turco® 6877™ paint remover offers a significant advance in EA paint stripper technology. It remains wet and active for very long periods of time. Although acid activated, it has a very low odor. Turco® 6877™ can be used on aluminum, mild steel, cast iron, and titanium when used as directed. Turco® 6877™ is not recommended for use on high strength steel or magnesium. Turco® 6877™ meets the corrosion requirements of AMS 1376B when tested at ambient temperature. | |
| | Turco® 6881™ | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Peroxide Activated, Water-Based | ● | | ● | ● | ● | ● | | | Ambient | Varies | Turco® 6881™ environmentally advantaged paint remover is low odor, thixotropic, and activated by hydrogen peroxide. It was developed for effective stripping of resistant finishes such as epoxies, epoxy primers, polyurethanes, and similar catalyzed aircraft paints. Offers a significant advance in paint stripper technology. Complies fully with the aircraft/aerospace NESHAP. Can be used on aluminum, mild steel, high strength steel, and titanium when used as directed. Not recommended for use on magnesium. Meets the corrosivity requirements of TT-R-2918 except magnesium and cadmium. | |
| | Turco® 6930™ EA Stripper | ● | ● | ● | | | | | | Liquid | Ready-to-Use | Spray | Use as Received | Peroxide Activated, Water-Based | ● | | ● | ● | ● | ● | | | Ambient | Varies | Turco® 6930™ EA Stripper is an environmentally advantaged paint remover that is low odor, thixotropic, and activated by hydrogen peroxide. It was developed for effective stripping of resistant finishes such as epoxies, epoxy primers, polyurethanes, and similar catalyzed aircraft paints. Offers a significant advance in paint stripper technology. Complies fully with the aircraft/aerospace NESHAP. Can be used on aluminum, mild steel, high strength steel, cadmium plated steel and titanium when used as directed. Meets the corrosivity requirements of Federal Specification TT-R-2918A. Not recommended for use on magnesium. | |
| TPC REMOVER | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Turco® TPC Remover 88™ | | | | | | | | ● | Liquid | Ready-to-Use | Spray or Brush | Use as Received | Mildly Alkaline, Water-Based | ● | | ● | ● | ● | ● | | | Ambient | 5-15 minutes | Turco® TPC Remover 88™ is used in the first step of a three-step Henkel process designed to properly prepare aluminum and titanium airframes for painting. In this extremely important step, the Turco® TPC Remover 88™ chemistry thoroughly wets the TPC for film penetration, dissolves and swells the TPC polymer through solvency which breaks the film's bond to the metal and suspends the TPC pigmentation in the remover through dispersion. The Turco® TPC Remover 88™ chemistry is mildly alkaline and contains an effective corrosion inhibitor to protect exposed metal surfaces. The product's balanced chemistry is applied with standard hanger applicator systems. It is thickened to properly adhere to all exterior airframe surfaces yet it rinses more freely and completely than other TPC removers. | |
| | P3® Coating Remover 2588T™ | | | | | | | | ● | Liquid | Ready-to-Use | Spray or Brush | Use as Received | Mildly Alkaline, Water-Based | ● | | ● | ● | ● | ● | | | Ambient | 10-20 minutes | P3® Coating Remover 2588T™ is a water-based, moderately viscous and mildly alkaline product specially developed for the removal of temporary protective coatings (TPC) from treated and untreated aluminum and steel surfaces. Contains a corrosion inhibitor package, which helps in protecting bare metal surfaces. Its thixotropic nature provides excellent clinging on vertical surfaces to provide sufficient contact time for temporary protective coating removal. A unique combination of surfactants provides quick penetration and easy water rinsing. | |
| MACHINE & GRINDING FLUIDS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Multan® 5500™ | ● | | | ● | | | | | Liquid | Concentrate | Circulation to Machine | 5%-10% in Water | Synthetic | ● | | ● | ● | ● | | | | Do Not Freeze | - | Multan® 5500™ is an oil absorbing, true solution, synthetic fluid for moderate machining and grinding of ferrous and most aluminum alloys. Its low foam characteristics make it usable in high pressure applications, such as gun drilling or creep feed grinding. | |
| | Multan® 3105™ | ● | | | ● | | | | | Liquid | Concentrate | Circulation to Machine | 5%-10% in Water | Synthetic | ● | | ● | ● | ● | ● | | | Do Not Freeze | - | Multan® 3105™ is an oil rejecting, synthetic fluid for heavy machining and grinding of ferrous and non-ferrous substrates. It is also suitable for copper and other exotic alloys. It is highly preferred on aluminum, titanium and inconel machining. | |
| | Multan® B-400™ | ● | | | ● | | | | | Liquid | Concentrate | Circulation to Machine | 6%-10% in Water | Semi-Synthetic | ● | | ● | ● | ● | ● | | | Do Not Freeze | - | Multan® B-400™ is a bio-resistant, semi-synthetic, cutting fluid applicable on most substrates. Its unique lubrication and EP package make it highly suitable for light to heavy metal removal operations. Its high characteristic level of cleanliness and wetting keep tooling clean and sharp to improve and maintain tool life. Multan® B-400™ has been certified by an independent lab to be mycobacterium resistant. | |
| | Multan® B-451™ | ● | | | ● | | | | | Liquid | Concentrate | Circulation to Machine | 6%-10% in Water | Semi-Synthetic | ● | | ● | ● | ● | ● | | | Do Not Freeze | - | Multan® B-451™ is a bio-resistant, high EP, semi-synthetic fluid suitable for use on most substrates. Its unique lubrication and EP package make it highly suitable for heavy metal removal operations and harder to machine alloys, such as inconel. Multan® B-451™ has been certified by an independent lab to be mycobacterium resistant. | |
| | Multan® CR 26™ | ● | | | ● | | | | | Liquid | Concentrate | Circulation to Machine | 100% | Straight Oil | ● | | ● | ● | ● | | | | Do Not Freeze | - | Multan® CR 26™ is a medium viscosity, straight cutting oil for use in multi-metal applications. Its high EP level makes it especially suitable for broaching applications. | |