

BONDERITE®

Industrial Solutions

Henkel Surface Treatment Field Guide

Call **1-800-LOCTITE (562-8483)** for technical assistance, customer service, or to be contacted by a local Henkel representative. Visit our web site, henkelna.com/surfacetreatment for detailed product descriptions and to download our comprehensive Surface Treatment Selector Guide for additional product solutions.

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Henkel Excellence is our Passion

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Premier Surface Treatment Processes from Henkel

More Savings, Fewer Steps, Superior Performance

BENEFITS OF HENKEL'S NANOCERAMIC PROCESS

1. Process

- Reduces the number of process steps since activation and passivation are no longer required, while simultaneously reducing contact times. This allows for reduced cycle times and increased production rates, while still decreasing overall footprint of the line.
- Simple control via:
 - Standard process control – A robust industrial-proven photometer has been specifically adapted to the Bonderite® NT-1™ quality control parameters. By using this photometer, quality management standards and superior quality demands can be achieved and maintained easily. Tedious manual handling is omitted.
 - Easy-to-handle, on-line analytics using line-guard units.
 - Robust process with broad operating window, which leads to higher flexibility.



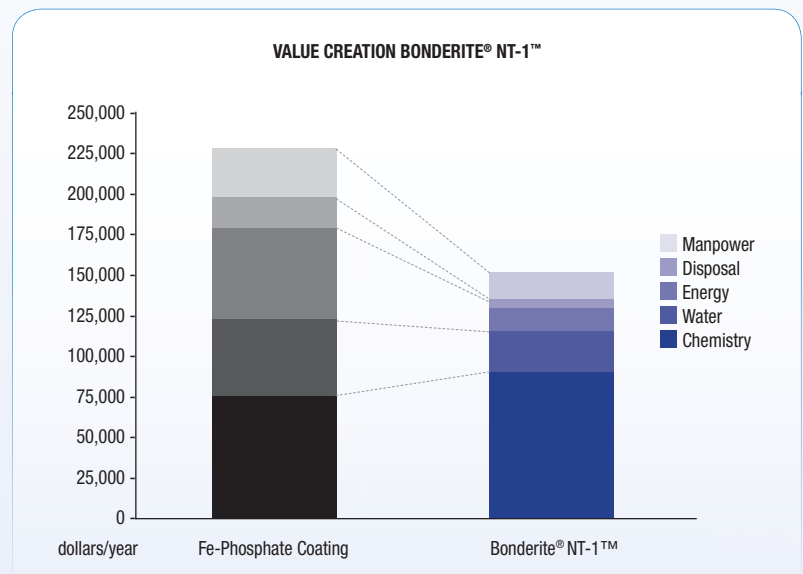
Photometer for monitoring quality standards.

2. Environment

- Reduced hazardous waste – Bonderite® NT-1™ is composed of nanoceramics and is free of nickel, phosphates, VOCs and regulated chemicals.
- Sludge formation is marginal, which leads to significant savings in hazardous waste generation.
- Reduced energy/CO₂ – Bonderite® NT-1™ operates at ambient temperatures, reducing utilities and natural resource requirements (and associated CO₂).
- Ambient operation vs. 120°F for iron phosphate vs. 140°F for zinc phosphate.
- Nozzle blockage reduction.

3. Economic

- Major cost savings due to less energy and less maintenance.
 - Lower investment costs.
 - Less maintenance costs.
 - Less disposal costs – free of regulated chemistry and marginal sludge generation.
 - Lower secondary costs (energy, water).



IRON PHOSPHATE PROCESS

Technology Overview

A non-crystalline, nonmetallic, iron phosphate coating that is chemically adherent to the metal substrate provides two major benefits to paint systems: increased paint adhesion and increased corrosion protection. This is a very versatile process which, depending on product selection, can include stand-alone coater products or combination cleaner/coater products.

ALUMINUM CONVERSION COATING PROCESS

Technology Overview

Henkel offers a full line of aluminum-specific conversion coatings including chromates, chrome phosphates and non-chrome conversion coatings. Additionally, a full line of aluminum-specific cleaners and deoxidizers are available.



Parts ready for paint.

Metal Pretreatment

Clean, Convert, Seal

PREFERRED ALKALINE CLEANERS

- Alkaline cleaners remove organic soils such as rust preventatives, oils and lubricants. Multi-metal cleaners reduce or eliminate etch on all non-ferrous metals, such as galvanized steel and aluminum. Steel-only cleaners are heavier duty cleaners optimized for only ferrous metals, such as cold rolled steel and hot rolled steel; they will severely etch non-ferrous metals.

- In addition, cleaners are designed within a specific operating temperature to reduce foaming and provide maximum cleaning effectiveness. Increasing temperature within the operating window will increase cleaning power.
- Cleaners with high levels of phosphate provide maximum cleaning power, while cleaners with no phosphate or minimal levels are environmentally friendly alternatives.

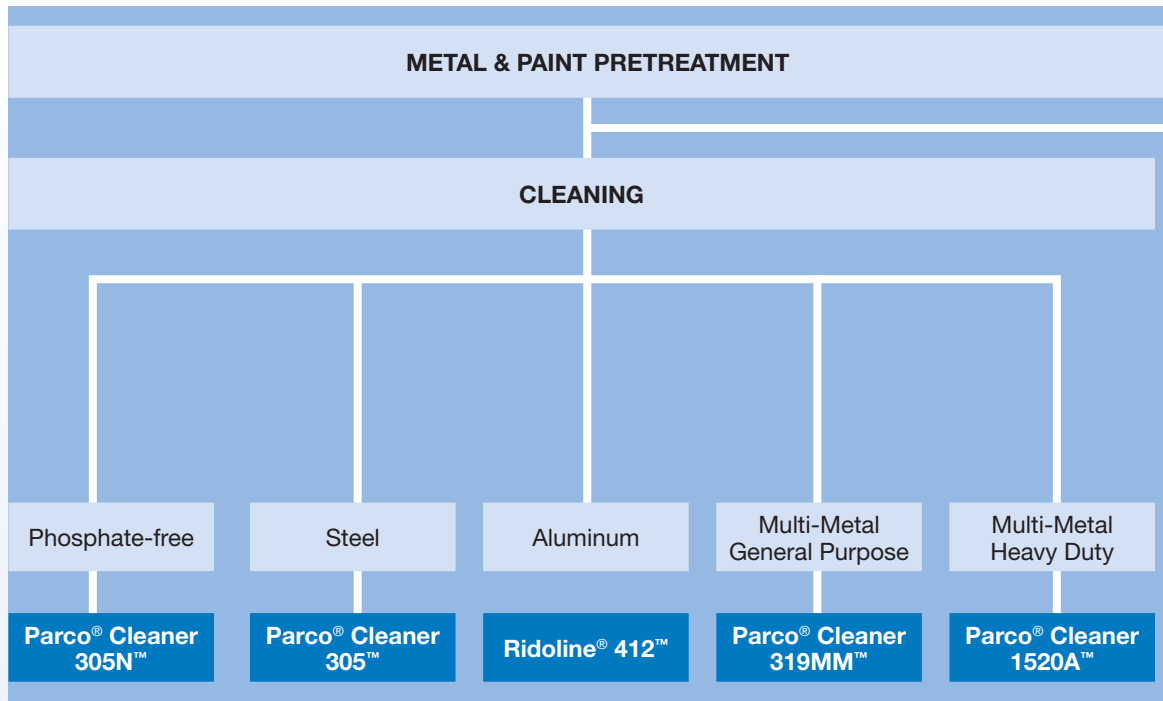
Your Application

Step 1: Pick a cleaner.

Step 2: Pick a conversion coating.

Step 3: Seal it!

Solution

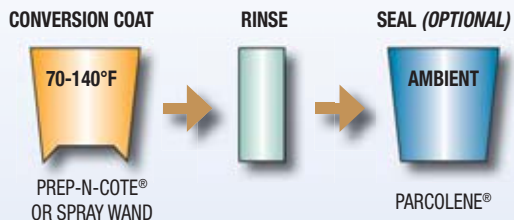


	Parco® Cleaner 305N™	Parco® Cleaner 305™	Ridoline® 412™	Parco® Cleaner 319MM™	Parco® Cleaner 1520A™
Application Temp.	100°F-140°F	100°F-140°F	130°F-180°F	110°F-150°F	110°F-140°F
Concentration by Volume	1-3%	2-4%	1-5%	0.5-5%	1-3%
Contact Time	5-120 seconds	5-120 seconds	1-15 minutes	30-120 seconds	30-80 seconds
Application	Spray	Spray	Spray, Immersion	Spray, Immersion	Spray, Immersion
Acid/Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline

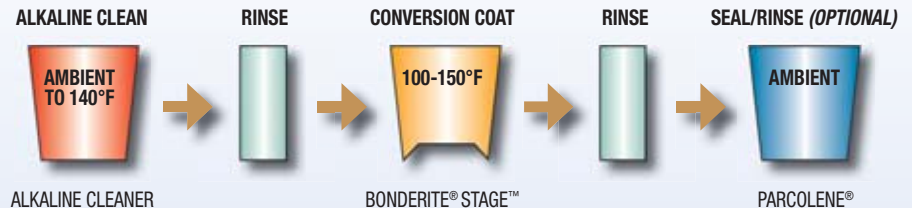
Product Containers

	Parco® Cleaner 305N™ P/N	Parco® Cleaner 305™ P/N	Ridoline® 412™ P/N	Parco® Cleaner 319MM™ P/N	Parco® 2-Part Cleaner 1520A™ P/N
PAIL (5 GAL)	1470316 Pail	670363 Pail	736390 Pail	772258 Pail	Contact customer service for appropriate product numbers.
DRUM (55 GAL)	842945 Drum	593947 Drum	627028 Drum	594588 Drum	
TOTE (330 GAL)	1695857 Tote	987206 Tote	1695791 Tote	1669724 Tote	

RECOMMENDED 3-STAGE PROCESS & SPRAY WAND



RECOMMENDED 5-STAGE PROCESS



Conversion Coating

A non-crystalline, nonmetallic, iron phosphate coating that is chemically adherent to the metal substrate provides two major benefits to paint systems: increased paint adhesion and increased corrosion protection. This is a very versatile process which, depending on product selection,

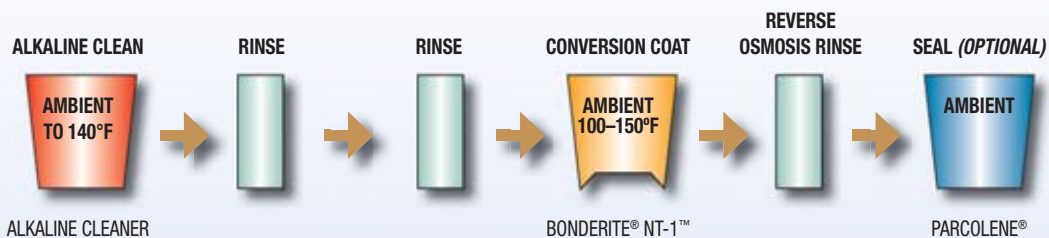
can include stand alone coater products or combination cleaner/coater products.

Sealers

These products are designed to enhance the level of performance of a conversion coating, such as by providing increased corrosion protection.

CONVERSION COATING							SEAL / POST RINSE (CHROME-FREE)		
1-STAGE		3-STAGE		5-STAGE					
Spray Wand	Spray Wand	Cleaner/Coater		Iron Phosphate		Nanoceramic			
		Steel	Multi-Metal	Steel	Multi-Metal		Dry-in-Place	Organic	Inorganic
Parco® Spray Wand 101™	Parco® Spray Wand 200™	Prep-N-Cote® 500LT™	Prep-N-Cote® 700™	Bonderite® 1030™	Bonderite® 1090™	Bonderite® NT1™	Parcolene® 7100™	Parcolene® 99X™	Parcolene® 50NC™
120°F-190°F	130°F-190°F	70°F-140°F	110°F-150°F	100°F-120°F	110°F-115°F	Ambient	Ambient	Ambient	70°F-100°F
1-3%	1-6%	2-4%	4-8%	3-4%	2-6%	3-5%	5-10%	3%	10%
30-180 seconds	30-180 seconds	1-2 minutes	1-5 minutes	45-90 seconds	30 sec.-5 min.	20-120 seconds	5-15 seconds	20-120 seconds	15-60 seconds
Spray	Spray	Spray	Spray, Immersion	Spray	Spray, Immersion	Spray, Immersion	Spray	Spray, Immersion	Spray, Immersion
Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid	Acid
Parco® 101™ Spray Wand P/N	Parco® 200™ Spray Wand P/N	Prep-N-Cote® 500LT™ P/N	Prep-N-Cote® 700™ P/N	Bonderite® 1030™ P/N	Bonderite® 1090™ P/N	Bonderite® NT1™ P/N	Parcolene® 7100™ P/N	Parcolene® 99X™ P/N	Parcolene® 50NC™ P/N
772110 Pail	772101 Pail	771987 Pail	772086 Pail	771860 Pail	772192 Pail	772427 Pail	596456 Pail	717257 Pail	771997 Pail
549296 Drum	594643 Drum	593944 Drum	594268 Drum	593941 Drum	594281 Drum	611359 Drum	594309 Drum	665553 Drum	594378 Drum
890689 Tote	598704 Tote	890562 Tote	890682 Tote	698942 Tote	890712 Tote	893767 Tote	890714 Tote	1695841 Tote	890566 Tote

RECOMMENDED NANOCERAMICS LINE



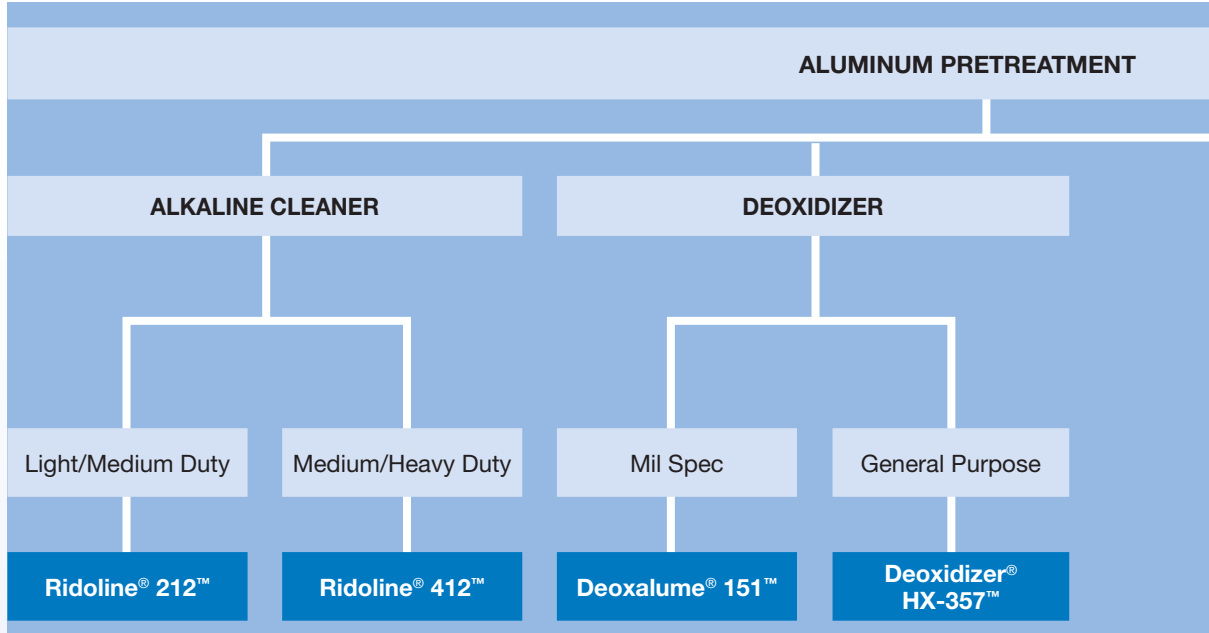
Aluminum Pretreatment

Clean, Convert, Seal

Your Application

- Step 1:** Pick a cleaner.
- Step 2:** Pick a deoxidizer.
- Step 3:** Pick a conversion coating.
- Step 4:** Seal if needed.
- Step 5:** Paint for allotting finish.

Solution

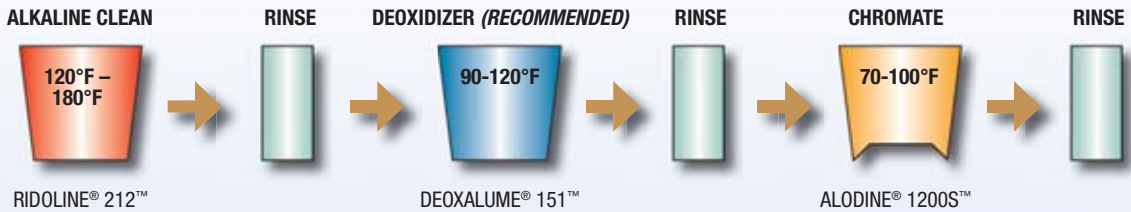


	Ridoline® 212™	Ridoline® 412™	Deoxalume® 151™	Deoxidizer® HX-357™
Application Temp.	100°F-140°F	130°F-180°F	90°F-120°F	90°F-120°F
Concentration by Volume	3-8%	1-5%	3-6%	1.5-3%
Contact Time	30-120 seconds	1-15 minutes	2-10 minutes	2-10 minutes
Description	Liquid	Liquid	Liquid	Liquid

Product Containers

	Ridoline® 212™ P/N	Ridoline® 412™ P/N	Deoxalume® 151™ P/N	Deoxidizer® HX-357™ P/N
PAIL (5 GAL)	597967 Pail	736390 Pail	772103 Pail	598128 Pail
DRUM (55 GAL)	593946 Drum	627028 Drum	594445 Drum	593987 Drum
TOTE (330 GAL)	890697 Tote	1695791 Tote	Tote Not Available	891145 Tote

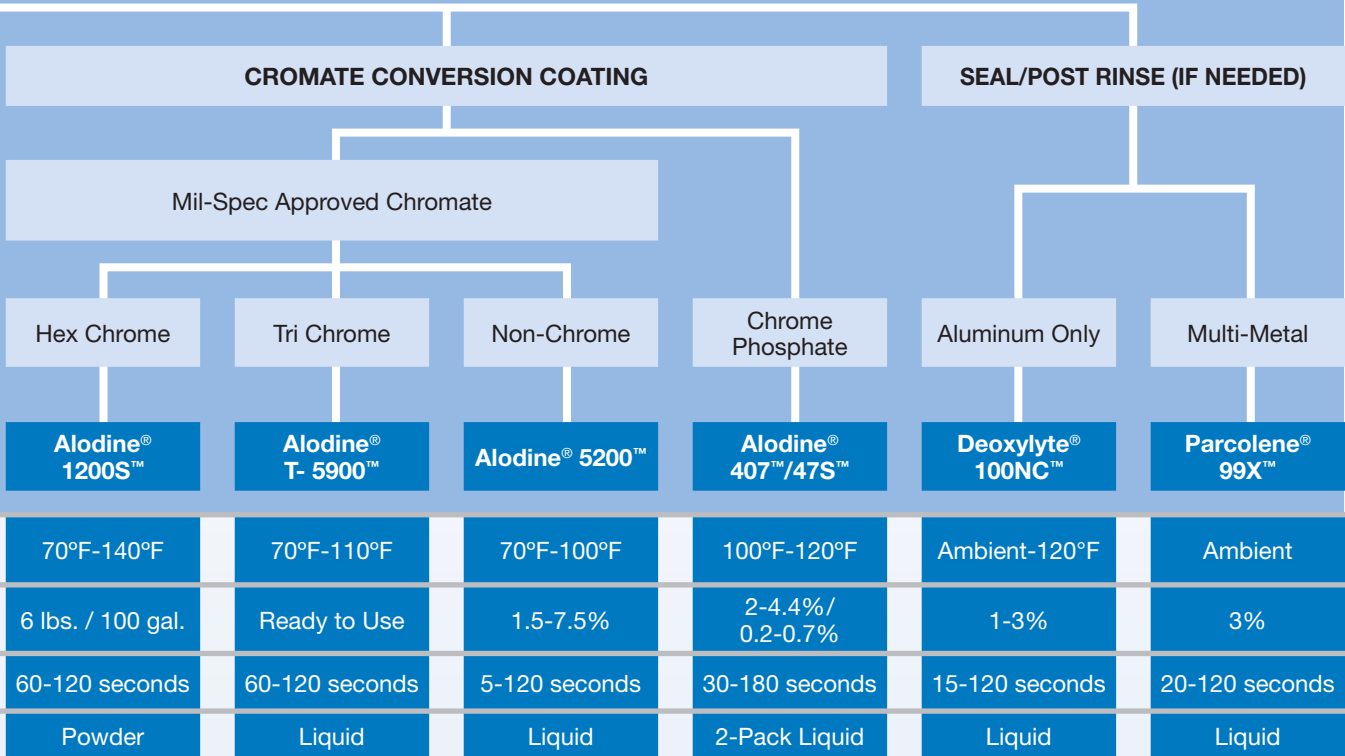
RECOMMENDED ALODINE® 1200S™ HEXAVALENT CHROME PROCESS



Do you have a small job or a one-off part to clean, coat or that needs corrosion protection? Use Henkel wipes & pens:

- Alodine® 871™ Touch-N-Prep® Pen – Conversion Coating Pen
- Alodine® 5700™ Wipes – Paint Pretreatment Wipe
- Parcisol® 263™ Wipes – Cleaner Wipe





Alodine® 1200S™
P/N
593964 Pail
Drum Not Available
Tote Not Available

Alodine® T- 5900™
P/N
772744 Pail
772743 Drum
1695846 Tote

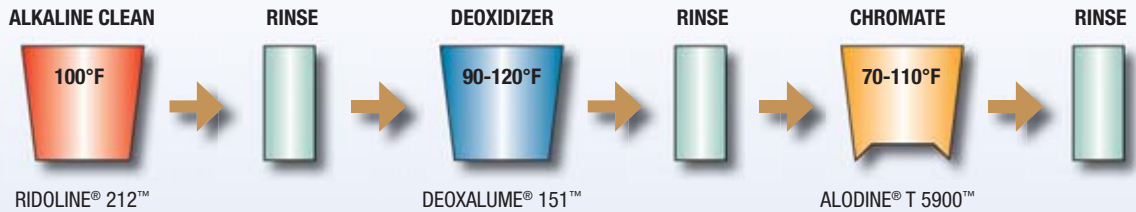
Alodine® 5200™
P/N
596088 Pail
594142 Drum
890707 Tote

Alodine® 407™/47S™
P/N
NA/596332 Pail
593391/593839 Drum
1153926/1695874 Tote

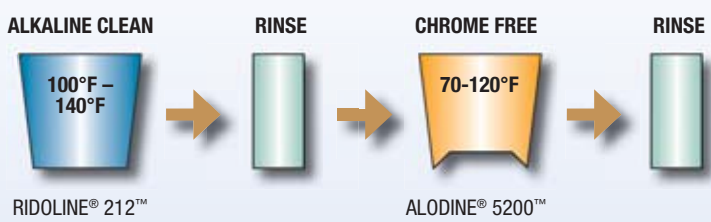
Deoxylite® 100NC™
P/N
643710 Pail
595234 Drum
Tote Not Available

Parcolene® 99X™
P/N
717257 Pail
665553 Drum
1695841 Tote

RECOMMENDED ALODINE® T 5900™ TRIVALENT CHROME PROCESS



RECOMMENDED ALODINE® 5200™ CHROME FREE PROCESS



Maintenance & MRO Cleaners

Your Application

Have a repair or a hard-to-clean surface?

Let us help!

What is your cleaning need?

Solution

GENERAL MAINTENANCE & MRO CLEANING

MAINTENANCE CLEANING

FLOOR/
CONCRETE

GLASS

PLANT/
GENERAL PURPOSE

TRANSPORTATION
CLEANER

PARTS
WASHING

P3® Parco®
Clean-Up 2280™

P3® Parco®
Clean-Up 2280™

P3® Parco® Maintenance
Cleaner 2235™

P3® Grato™
3000™

P3® Grato™
3000™

Application Temp.	Ambient	Ambient	Ambient to 140°F	Ambient	Ambient
Concentration	1-20%	1-20%	0.5-50%	3-5%	3-5%
Contact Time	As required	As required	2-10 minutes	1-3 minutes	20 minutes
Application	Scrub/Mop	Scrub/Mop	Brush, Spray, Scrub/Mop	Brush, Spray	Brush, Spray
Acid/Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline

Product Containers

P3® Parco® Clean-Up 2280™

P/N	Container Size
596168	Pail (5 gal)
594614	Drum (55 gal)
1009383	Tote (330 gal)

P3® Parco® Clean-Up 2280™

P/N	Container Size
596168	Pail (5 gal)
594614	Drum (55 gal)
1009383	Tote (330 gal)

P3® Parco® Maintenance Cleaner 2235™

P/N	Package Size
597788	Pail (5 gal)
594797	Drum (55 gal)
1101405	Tote (330 gal)

P3® Grato™ 3000™

P/N	Package Size
1371210	Pail (5 gal)
1290334	Drum (55 gal)
1304640	Tote (330 gal)

P3® Grato™ 3000™

P/N	Package Size
1371210	Pail (5 gal)
1290334	Drum (55 gal)
1304640	Tote (330 gal)

Do you have a small job or a one-off part to clean, coat or that needs rust preventative? Use Henkel wipes & pens:

- Parcisol® 263™ – Cleaner Wipe
- Bonderite® 1455™ – Paint Pretreat Wipe
- Alodine® 871™ – Touch-N-Prep® Pens





PAINT REMOVAL & REFURBISHMENT

DEGREASING

PAINT STRIPPING

RUST PREVENTATIVE

Aluminum

Steel

**Bonderite®
C-AK 5012™**

**Bonderite®
S-ST 3012™**

**P3® Tensopon™
683™**

P3® Prevox™ 505™

130°F-175°F

130°F-180°F

130°F-180°F

Ambient to
180°F

20-40%

20-40%

5-35%

3-20%

2-20 minutes

2-20 minutes

3-30 minutes

5-30 seconds

Spray,
Immersion

Spray,
Immersion

Spray,
Immersion

Spray

Alkaline

Alkaline

Alkaline

Alkaline

MRO CLEANING

DE-RUSTING

INTERPROCESS

DEGREASING

RUST PREVENTATIVE

DR-238G™

**P3-Neutraccare®
5088™**

Turco® 6849™

**P3® Prevox™
505™**

Ambient to
120°F

130°F-175°F

130°F-160°F

Ambient to
180°F

5-20%

3-6%

10-20%

3-20%

10 minutes-
6 hours

1-5 minutes

30-180
seconds

5-30 seconds

Immersion

Spray,
Immersion

Immersion

Spray

Neutral

Neutral

Alkaline

Alkaline

Bonderite® C-AK 5012™

Contact customer service for appropriate product number.

Bonderite® S-ST 3012™

Contact customer service for appropriate product number.

P3® Tensopon™ 683™

P/N Package Size
1562049 Pail (5 gal)
1562048 Drum (55 gal)
1562050 Tote (330 gal)

P3® Prevox™ 505™

P/N Package Size
596698 Pail (5 gal)
594827 Drum (55 gal)
1315616 Tote (330 gal)

DR-238G™

P/N Package Size
596606 Pail (5 gal)
594291 Drum (55 gal)
1695813 Tote (330 gal)

P3-Neutraccare® 5088™

P/N Package Size
597978 Pail (5 gal)
593241 Drum (55 gal)
1683842 Tote (330 gal)

Turco® 6849™

P/N Package Size
1099256 Pail (5 gal)
596965 Drum (55 gal)
1688477 Tote (330 gal)

P3® Prevox™ 505™

P/N Package Size
596698 Pail (5 gal)
594827 Drum (55 gal)
1315616 Tote (330 gal)



Surface Treatment Application Survey

FIELD REPRESENTATIVE

Phone	Date
Project	CAPRIS No.

CUSTOMER CONTACT INFORMATION

Account	
Address	
Address	
City	
State	ZIP
Contact	
Title	
Phone	
Email	
Alternate Contact	
Title	
Phone	
Email	

GENERAL INFORMATION

Line Type:		
Line Name:		
Shifts/day:	Sq. Ft. proc/day:	
Usage/month:		
% Metal Mix:	CRS	HRS
	GALV	ALUM
	OTHER	
Application:	Spray	Immersion

PAINT SYSTEM DETAILS

Dry-off Oven Temp (°F):
Dry-off Oven Time (min.):
Paint Supplier:
Types/Names of Paints:
Cure Time:
Cure Temp. (°F):
Film Thickness Range (mils):

QUALITY REQUIREMENTS - List Specifications and Pass/Fail Criteria

Corrosion Tests:	Testing Requirements:
Paint Adhesion Tests:	
Physical Tests:	
Coating Weights:	
Customer Specifications:	

SAFETY CONCERNS:

ADDITIONAL CRITERIA / NEEDS:

CURRENT PROCESS

Stage	Process	Product	Operating Parameters	Time (Sec.)	Temp. (°F)
1					
2					
3					
4					
5					
NOTES					
NOTES					
NOTES					
NOTES					

ACTION STEPS

	WHO	COMPLETION DATE
1		
2		
3		
4		

