Non-Destructive Testing Catalog for North America

- Magnetic Particle Testing Materials, Equipment, & Accessories
- Magnetic Yokes
- Penetrant Testing Materials, Equipment, & Accessories
- UV Lamps
- Ultrasonic Couplants
- Aqueous Cleaners
Lightweight, Heavy Duty, Durable

Y-2 Yoke

Ergonomic design features swappable cord and a sealed trigger.

magnaflux.com/Y-2
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## Magnetic Yokes

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## Penetrant Testing Equipment

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*Representative of the number of indications on a tool steel ring as defined in ASTM E1444.*
14A

Wet Method Fluorescent Magnetic Particles

A highly sensitive magnetic particle powder, 14A fluorescent mag particles are engineered to locate very fine discontinuities in critical parts and applications.

Designed with strong fluorescent properties, 14A magnetic powder is made with a carefully optimized range of particle sizes & shapes to ensure particles move quickly and easily to indications, while minimizing background and particle clumping. The result is faster inspections with better reliability and greater confidence.

**Benefits**
- Increases indication detection
- Minimizes inspection time
- Improve inspection consistency and reliability

**Features**
- Can be suspended in water or petroleum distillate (oil) vehicle
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimized particle size and shape distribution
- Easily dispersed

**Part Numbers**
- 01-0130-71: 1 lb / 453 g jar (case of 6) (P)
- 01-0130-75: 20 lb / 9.07 kg pail (P)

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14A Aqua-Glo

Water-Based Fluorescent Magnetic Particle Suspension

14A Aqua-Glo is a highly sensitive water-based magnetic particle suspension aerosol for locating very fine discontinuities in critical applications and difficult to reach areas. 14A Aqua-Glo offers the benefits of a water bath and the convenience of an aerosol. It is ideal for spot inspections and difficult to process situations where bulk processing is impractical.

**Benefits**
- Clear, bright indications under UV light
- Ready-to-use
- High sensitivity
- Easy post-testing clean up
- Excellent fluorescent contrast for quick identification
- Excellent particle mobility
- Even surface coverage for higher probability of detection

**Part Number**
- 01-1725-35: 1 gal / 3.78 L (case of 4) (P)
## 14A Redi-Bath

**Water-Based Fluorescent Magnetic Particle Concentrate**

14A Redi-Bath is highly sensitive, water-based magnetic particle liquid for locating very fine discontinuities in critical parts during fluorescent mag particle inspection.

A concentrated liquid with the best-in-industry 14A magnetic particles with water conditioners and corrosion inhibitors, 14A Redi-Bath is designed to be diluted with water to make magnetic particle water bath. The ultra-sensitive 14A particles provide clear, bright, fluorescent green indications under ultra-violet black light for unbeatable inspection quality and accuracy, with superior corrosion protection.

### Benefits
- Increases indication detection with 14A particles
- Minimizes inspection time
- Improve inspection consistency and reliability

### Part Numbers
- **01-9130-41:** 27 fl oz / 798 mL bottle (case of 6) (P)
- **01-9130-35:** 1 gal / 3.78 L (case of 4) (P)

### Features
- Liquid particle concentrate for fast bath prep
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimized particle size and shape distribution
- Easily dispersed
- Great concentration consistency
- Superior corrosion protection
- Non-foaming
- Easy post-testing clean up
- Even surface coverage and higher probability of detection

## 14AM

**Oil-Based Fluorescent Magnetic Particle Suspension**

14AM is a ready-to-use magnetic particle suspension liquid for locating very fine discontinuities in critical parts and applications by providing clear, bright, fluorescent green indications for excellent inspection quality and accuracy.

### Benefits
- Increases indication detection with optimized particle size and shape distribution of 14A particles
- Minimizes inspection time
- Improve inspection consistency and reliability
- Decreases maintenance
- Convenient & versatile
- Good dispersion stability
- Available in a variety of different formats
- Protects parts and equipment against corrosion
- Provides superior wetting and surface coverage
- Low maintenance oil-based suspension
- Very low toxicity
- High flash point

### Part Numbers
- **01-0145-78:** Aerosol can (case of 12) (P)
- **01-0145-40:** 5 gal / 18.9 L (P)
20B
Fluorescent Magnetic Particle Premix
20B is a highly-sensitive magnetic particle premix powder for locating fine discontinuities in high volume applications, such as forging, casting, stamping and welding.

Benefits
Increases indication detection with 14A particles
- Find smaller, finer indications in critical applications using the highly sensitive, strong ferromagnetic 14A particles
- Optimized particle size and shape help particles move freely to stick to a wide variety of discontinuities with less particle clumping

Minimizes inspection time
- Clear, bright fluorescent indications form quickly due to the highly fluorescent, highly mobile 14A mag particles
- Minimal background fluorescence help indications stand out more so inspectors need to spend less time examining each part

Improve inspection consistency and reliability
- Maintain magnetic particle system performance over greater periods of time thanks to the highly-durable, easily-dispersed 14A fluorescent particles
- Reduced particle clumping helps maintain particle concentration in the suspension bath for dependable inspections

Convenient to use
- Fast, reliable particle bath prep with the easy-to-use premix of 14A magnetic particles, water conditioners and corrosion preventatives
- Designed to mix with water in low concentrations for an ideal balance of performance and economy

Features
- Premix powder for quick, reliable bath prep
- High sensitivity
- Excellent fluorescent contrast
- Excellent particle mobility
- Optimized particle size and shape distribution
- Durable particles
- Easily dispersed
- Great concentration consistency
- Corrosion protection
- Non-foaming
- Easy post-testing clean up
- Good dispersion stability
- Good surface wetting

Part Numbers
01-0179-71: 1 lb / 453 g jar (case of 6)
01-0179-70: 15 lb / 6.8 kg pail
01-0179-84: 30 lb / 13.6 kg pail (P)
MG-410
Fluorescent Magnetic Particles
MG-410 is an ultra-bright fluorescent magnetic particle powder for locating small, medium, and large discontinuities. These particles provide clear, ultra-bright, fluorescent green indications under UV light with minimal background. MG-410 is designed for use in water or oil baths for wet method fluorescent magnetic particle testing.

Benefits
- Clear, ultra-bright indications under UV light
- Provides excellent discontinuity definition
- Can be suspended in water or oil vehicle
- Minimal background

Part Number
01-0191-73: 2 lb / 907 g jar (case of 6)

MG-450A
Fluorescent Magnetic Particle Premix
MG-450A is a borax-free ultra-high fluorescence magnetic particle premix for locating small, medium and gross discontinuities in high-volume applications using wet method magnetic particle testing.

Benefits
- Improves indication detection
- Decreases maintenance
- Advanced corrosion protection

Features
- Clear, ultra-bright indications under UV light
- Patent-pending water conditioner and corrosion inhibitor package
- Ultra-high fluorescence particles
- Very low background for easy indication detection
- Good surface wetting
- High indication contrast
- Strong corrosion protection
- Low foam

Part Number
01-0196-73*: 2 lb / 907 g jar (case of 6)
* Special Order! Four (4) week lead time
#1 Gray
Colored Non-fluorescent Magnetic Particles

#1 Gray provides strong contrast on most metal surfaces during dry method mag particle testing in visible light. It is ready-to-use for visible light flaw detection of surface and slightly subsurface discontinuities in ferrous metals.

**Benefits**
- Sharp, color-contrast indications on high reflective surfaces
- Ready-to-use
- Good particle buildup for quick detection
- Highly refined for optimal particle shape and size combination
- Minimal dust build-up
- Does not require a black light or darkened inspection area

**Part Numbers**
- 01-1716-69: 10 lb / 4.53 kg pail
- 01-1716-87: 45 lb / 20.4 kg pail (P)

#2 Yellow
Colored Non-fluorescent Magnetic Particles

#2 Yellow provides strong contrast on most metal surfaces during dry method mag particle testing in visible light. It is ready-to-use for visible light flaw detection of surface and slightly subsurface discontinuities in ferrous metals.

**Benefits**
- Sharp, color-contrast indications on high reflective surfaces
- Ready-to-use
- Good particle buildup for quick detection
- Highly refined for optimal particle shape and size combination
- Minimal dust build-up
- Does not require a black light or darkened inspection area

**Part Numbers**
- 01-1732-69: 10 lb / 4.53 kg pail
- 01-1732-87: 45 lb / 20.4 kg pail

#8A Red
Colored Non-fluorescent Magnetic Particles

#8A Red provides strong contrast on most metal surfaces during dry method mag particle testing in visible light. It is ready-to-use for visible light flaw detection of surface and slightly subsurface discontinuities in ferrous metals.

**Benefits**
- Sharp, color-contrast indications on highly reflective surfaces
- Ready-to-use
- Good particle buildup for quick detection
- Highly refined for optimal particle shape and size combination
- Minimal dust build-up
- Does not require a black light or darkened inspection area

**Part Numbers**
- 01-1780-69: 10 lb / 4.53 kg pail (P)
- 01-1780-87: 45 lb / 20.4 kg pail (P)
7C Black
Wet Method Colored Visible Magnetic Particles
7C Black is a highly-sensitive magnetic particle powder for non-fluorescent (visible) wet method magnetic particle testing. Particle suspensions prepared with 7C Black provide clear, strong indications and are ideal for locating fine and medium discontinuities on finished parts.

Benefits
- Clear indications under visible light
- Heavy particle buildup for quick detection
- Can be suspended in water or petroleum distillate (oil) vehicle
- Great particle mobility

Part Number
01-1116-81: 25 lb / 11.34 kg pail

7HF
Oil-Based Visible Magnetic Particle Suspension
A highly-sensitive oil-based magnetic particle aerosol for nonfluorescent (visible) wet method magnetic particle testing to locate fine and medium discontinuities on finished parts.

7HF provides clear, strong indications due to the heavy buildup of the highly magnetic particles. The convenient aerosol packaging is ideal for field testing, spot inspections and places where bulk processing is impractical, and the wide spray pattern makes it easy to cover large areas for faster processing during remote inspections of tubing, piping and large structures.

Benefits
- Maximize indication detection
- Convenient to use
- Wide application versatility

Part Number
01-1580-78: Aerosol can (case of 12) (P)

Features
- Superior surface wetting
- Very small particle size
- Works in visible light
- Oil-based formula
- Very low toxicity
- Low odor
MV-740
Water-Based Visible Magnetic Particle Suspension

A highly-sensitive water-based magnetic particle fluid for non-fluorescent (visible) wet method magnetic particle testing to locate fine and medium discontinuities on finished parts.

MV-740 provides clear, strong indications due to the heavy buildup of the highly magnetic particles. The product is ready-to-use, so no dilution is required.

MV-740 is often used with WCP-2 white contrast paint to improve contrast and inspection sensitivity.

Benefits

- Eco-friendly profile
  - Environmental-friendly water-based formula
  - Packaging made from post-consumer recycled plastic and can be recycled after use
  - Non-aerosol format reduces disposal hassle and cost, and does not contribute hydrocarbon chemicals to the atmosphere

Features

- Ready-to-use solution
- Clear indications under visible light
- Heavy particle buildup
- Great particle mobility
- Protects parts and equipment against corrosion
- Optimized surface wetting
- Works in visible light
- Water-based formula
- Low odor

Maximize Application Versatility & Indication Detection

- Heavy build-up of highly magnetic particles around all leakage fields make for heavy-contrast indications, especially when used with WCP-2 contrast paint
- Inspect a wide range of components without fear of corrosion or specification non-conformance
- Inspect in all conditions without the need for darkness or UV lights, including at temperatures below freezing
- Use with various applicators, choose the sprayer that works best for your application - no dilution required

Part Number

01-9140-35: 1 gal / 3.78 L (case of 4)
WCP-2
White Contrast Paint

A bright white, opaque NDT contrast paint, WCP-2 provides a high contrast background to improve probability of detection and sensitivity during visible magnetic particle inspections.

This fast-drying paint aerosol sprays on evenly, without flaking, before inspection so when non-fluorescent / colored magnetic particles are applied, the indications appear clearly against the opaque white background.

Benefits
Maximize indication detection
- See indications more easily with bright white, opaque surface which highlights indications while minimizing glare/reflections

Increase inspection speed
- Speed up inspections by applying a clean coat on the first pass, without bubbles or flakes
- Dries evenly and quickly to create an optimal surface for faster indication formation

Application versatility
- Comes in a convenient aerosol to take it with you wherever you go
- Can be used with wet or dry method magnetic particles on virtually any part
- Conforms to ISO 9934 specifications

Features
- Bright white color
- High opacity
- Provides good background contrast
- Fast drying
- Convenient, ready to use formula
- Controlled application
- Strong surface adhesion
- Matte coating
- Very low toxicity

Part Number
01-2250-78: Aerosol can (case of 12) (P)
01-2250-35: 1 gal / 3.78 L (case of 4) (P)
Carrier II
NDT-Approved Petroleum Base Suspension Vehicle
Carrier II is a high-purity NDT-approved suspension vehicle developed specifically for wet method magnetic particle testing.

This petroleum distillate carrier oil provides excellent particle mobility, good suspension stability and enhanced corrosion protection for reliable, spec-compliant mag particle inspections.

Benefits
Faster, more reliable inspections
- Increases inspection speed and reliability by quickly wetting the entire test surface
- Helps 14A particles to move at top speed to discontinuities

Decreases maintenance
- Magnetic particle baths last longer due to slow evaporation, and is less susceptible to contamination from bacteria or fungus
- Protects magnetic particles like 14A from wear and tear and keeps them evenly dispersed throughout the bath

Improves operator comfort
- Made with a highly refined oil to reduce skin irritations and eliminate strong odors for a nicer work environment

More inspection flexibility
- Can be used for virtually all magnetic particle inspections with conformance to all major international magnetic particle testing specifications
- Prevents corrosion of most alloys and eliminates post-inspection processing for corrosion protection

Safer to use
- Reduces EHS concerns with high flash point and low toxicity
- Reduce worry about fire or biological hazards

Increases equipment life-span
- Protects magnetic particle equipment from internal rust and corrosion to keep expensive machines running longer with less downtime

Features
- Odorless
- Provides excellent particle mobility
- Good dispersion stability
- Protects parts and equipment against corrosion
- Provides superior wetting and surface coverage
- Low maintenance oil-based suspension
- Very low toxicity
- Non-fluorescent
- High flash point
- Not considered a flammable liquid according to 29 CFR 1910.106
- Low volatility
- Wide temperature stability

Part Numbers
01-2122-40: 5 gal / 18.9 L (P)
01-2122-30: 20 gal / 75.7 L drum
01-2122-45: 55 gal / 208 L drum (P)
AX-52
Water-Soluble Corrosion Inhibitor
AX-52 is a water-soluble corrosion inhibitor developed specifically for water-based magnetic particle suspensions. It provides excellent corrosion inhibition to protect parts and equipment from rusting.

Benefits
• Protects parts and equipment against corrosion
• Mixes quickly into water
• Great for areas with hard water

Part Number
01-2190-40: 5 lb / 2.26 kg pail

WA-2B
Water Conditioner
WA-2B is a general-purpose water-conditioning powder to enhance surface wetting and magnetic particle dispersion stability in water-based magnetic particle suspensions. Its unique blend of wetting agents, corrosion inhibitors and anti-forming agents eliminates the need for additional water conditioning agents.

Benefits
• Provides excellent surface wetting
• Improves magnetic particle dispersion
• Superior short-term corrosion inhibition
• Enhanced antifoam characteristics

Part Number
01-2148-63: 5 lb / 2.26 kg pail

ZAF-2
Non-Silicone Antifoam
ZAF-2 is an excellent general-purpose defoaming additive to eliminate and prevent foaming in water-based magnetic particle suspensions, aqueous penetrant developer baths, hydrophilic penetrant remover baths and aqueous cleaning solutions. A few drops of ZAF-2 are enough to eliminate foaming in most water-based solutions.

Benefits
• Easy to use
• Effective, concentrated formula
• Silicone free

Part Number
01-9410-20*: 1 gal / 3.78 L
* Special Order! Two (2) week lead time
Magnetic Particle Testing Equipment
A-Series
Magnetic Wet Benches with AC Magnetization
The A-Series magnetic benches provide alternating current magnetization for finding surface defects during wet method magnetic particle inspection. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

Benefits
- Faster part processing
- Real-world dependability for minimal downtime
- Easy to use and maintain

Features
- 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- Allen-Bradley PLC
- Simple touch-screen operator interface
- External pump system for particle bath agitation, circulation and application

AD-Series
Magnetic Wet Benches with AC and DC Magnetization
The AD-Series magnetic benches provide 4,000 amps of alternating current and 5,000 amps of direct current magnetization for finding surface and sub-surface defects during wet method magnetic particle inspection. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

Benefits
- Faster part processing
- Real-world dependability for minimal downtime
- Easy to use and maintain

Features
- 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- Allen-Bradley PLC
- Simple touch-screen operator interface
- External pump system for particle bath agitation, circulation and application
D-Series
Magnetic Wet Benches with 3-Phase FWDC Capability
The D-Series is one of our most powerful magnetic wet benches. Providing 3-phase full wave direct current, this MPI equipment offers maximum magnetization for finding surface and sub-surface defects with clearer indications while using minimal power.

Benefits
- Meets aerospace specifications
- Faster part processing
- Real-world dependability for minimal downtime
- Easy to use and maintain

Features
- Allen-Bradley PLC
- Simple touch-screen operator interface
- External pump system for particle bath agitation, circulation and application
- Integrated ultra-low frequency, reversing, step-down DC demagnetization with 1-touch control

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.

MD-Series
Multi-Directional Magnetic Wet Benches for AC, HWDC or 1-Phase FWDC Magnetization
The MD-Series multi-directional magnetic bench offers alternating current, half wave direct current and 1-phase full wave direct current for time-saving multidirectional magnetization which can find defects in all orientations with one mag-cycle.

Benefits
- Maximize part throughput
- Advanced process control
- Real-world dependability for minimal downtime
- Easy to use and maintain

Features
- 5% duty cycle of 0.5 seconds on, 10 seconds off at maximum output
- Allen-Bradley PLC
- Advanced touch-screen operator interface
- 1,000 customer-programmable techniques

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
Universal WE
Multi-Directional Magnetic Wet Bench

The Universal WE magnetic wet bench is multi-directional magnetic wet bench designed to completely magnetize the surface of parts up to 35 inches long in a single shot. Potentially cutting inspection time in half because the part can inspected in both directions at once. The Universal WE offers 200 - 2,000 Amps AC for contact shots and 1,500 - 15,000 Amp-turns AC for coil shots. The two outputs are independently adjustable to set each magnetic field, circular or longitudinal.

**Benefits**

**Faster part processing**
- Double your inspection speed by magnetizing parts in a single shot
- Fully inspect longer parts, up to 35.4 in / 90 cm, without requiring an auxiliary coil
- Speed up part processing with a large automated surface shower

**Advanced process control**
- Maximize consistency between tests with 1,000 customer-programmable techniques
- Prevent accidental and unauthorized alterations with multiple user profiles and varying tiers of control for a range of operator experience levels
- Receive visual alerts when produced amperage is 90% or less than set amperage

**Real-world dependability for minimal downtime**
- Siemens PLC provides reliable controls and off-the-shelf replacements
- Rely on our industry leading warranty with best in-class service delivered by a global network of trained Magnaflux authorized service centers
- Minimize downtime with standard spare parts package

**Easy to use and maintain**
- Make quick operational adjustments using the simple, user-friendly operator interface with touch-screen controls
- External pump system provides fast access for easy cleaning and service

**Features**

- 60% duty cycle at 50% power output with a max of 6 seconds on and 4 seconds off
- Large surface shower to bathe entire part automatically with mag shot
- Siemens PLC
- Advanced touch-screen operator interface

**Ordering Information**

Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
CMD-Series
Power Pack Electromagnetic Current Generators with AC, HWDC and FWDC Magnetization
The CMD-Series is our line of multi-directional stationary power packs for magnetic particle testing. These current generators can easily be integrated with custom handling equipment or used to update old horizontal wet bench units. CMD-Series units come with 2 or 3 outputs. The multi-directional magnetization feature finds defects in all orientations with just one cycle and the outputs can be independently adjusted to balance the magnetic field intensity.

CSV-Series
Power Pack Electromagnetic Current Generators with 3-Phase FWDC Magnetization
Some parts will not lend themselves to traditional units as they are too large, some need special handling, and some are better processed dry. The CSV-Series offers a solution to the parts that are too large for normal systems. Three independent outputs help to speed up processing time, and a pulse feature allows development of larger areas. These units feature 3-phase rectified to full-wave DC output.

M-Series
Mobile Power Packs Electromagnetic Current Generators for AC or HWDC Magnetization
The M-Series mobile power pack portable current generators facilitate testing of large and abnormally heavy parts with magnetic particle inspection. Magnaflux understands some parts cannot be moved so the magnetizing station needs to be brought to the part. The M-Series offers a solution by providing an adaptable mobile unit. These units feature AC or Half Wave DC output.

CD-Series
Power Pack Electromagnetic Current Generators with 3-Phase FWDC Magnetization
The CD-Series is our line of magnetic power packs for magnetic particle inspection. These stationary magnetizing current generators are power pack versions of our wet bench units to effectively magnetize parts while keeping power requirements to a minimum. CD-Series units are ideal for large parts which will not fit on a wet bench or for parts that require special handling.
Enclosures
Magnetic Bench Enclosure Hoods
Our durable equipment hood or curtains are used to darken the inspection area to levels well below the common standards and create a very functional inspection environment while keeping operator comfort and convenience in mind. The easy access to the unit is improved by the front “theater style” curtain mechanism which can be folded in half and hung to allow better ventilation in warmer environments.

Features
- EV6000 hand-held LED UV lamp with mounting bracket
- Theater-style easy access front curtain
- Adjustable length curtains
- Flame resistant curtains
- Ventilation fan with on/off switch on operator interface
- Visible light with control on operator interface

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.

XG-Series
Conveyor Inspection Booth for Faster NDT Through-Put
The XG-Series conveyor inspection booth is ideal for customers who require high throughput or who want to separate part processing (magnetization) from part inspection; available for A-Series, AD-Series, D-Series and MD-Series magnetic particle wet benches.

Benefits
- Ergonomic environment for the operator; limits lifting, twisting and turning.
- Faster part processing; operators spend more time inspecting parts instead of moving parts in and out of the unit.

Features
- Multiple conveyor width options: 12 in or 18 in
- Adjustable speed, 4-40 ft/min / 0.02-0.2 m/s
- ST700 overhead LED inspection UV Lamps, qty. 2
- EV6000 hand-held LED UV lamps, qty. 2
- E-stop in-booth emergency power cut-off for additional safety control
- Demagnetizer with 8,500 A turns and internal diameter of 15 x 15 in (38 x 38 cm)

Ordering Information
Magnaflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
S-Series Demagnetizers
Table-top demagnetizers

Demagnetization units remove any residual magnetism remaining after conducting magnetic particle inspection. Demagnetization of ferromagnetic parts and materials often requires a requisite to final finishing or to ready an item for its ultimate use. Industrial demagnetizing is not an easy task, unless an effective demagnetizing system is used. It is especially difficult when the magnetic field must be reduced to a very low level.

Features
- Compact table-top demagnetization system
- Waterproof and oilproof by virtue of their plastic-impregnated glass coating
- Compact size fits into most existing test or production systems
- Base of the coil opening may be mounted flush with the work surface using the angle support supplied, making part insertion fast and easy on the operator

Part Numbers
197250: S-66, 115V
197251: S-66, 230V
197252: S-66, 460V
197260*: S-1212, 230V or 460V
600615-01: S-1515, 460V
* Must Specify Voltage

SB-Series Demagnetizers
Stand alone, intermittent duty demagnetizers

Demagnetization units remove any residual magnetism remaining after conducting magnetic particle inspection. Demagnetization of ferromagnetic parts and materials often requires a requisite to final finishing or to ready an item for its ultimate use. Industrial demagnetizing is not an easy task, unless an effective demagnetizing system is used. It is especially difficult when the magnetic field must be reduced to a very low level.

Features
- Durable construction
- Heavy-duty, industrial protective coating
- User-friendly control panel with one touch demag
- Adjustable demag timer

Ordering Information
Magnflux magnetic particle equipment is built to order: Please contact us for a detailed quote.
**P-Series**

Economical Power Pack Magnetic Current Generators

P-Series portable power packs are convenient and economical inspection units that are used in a wide range of magnetic particle inspection applications that require only moderate power.

**Benefits**

- Find surface defects with AC current; switch cable connection to half wave DC (HWDC) for near-surface flaws
- Locate defects in any direction using prods, central conductor, coil (wrap part with 3-5 turns of cable)
- Infinitely variable current control
- Demagnetize parts in AC mode by slowly turning the current dial to zero
- Built-in automatic-reset circuit breaker
- May be used as the main power source for the mag kit modular bench inspection system
- Quick connects provide fast, easy, and secure connection

**Part Numbers**

- 628822: P-70, 115V
- 628826: P-70, 230V
- 628824: P-1500, 230V
- 628825: P-1500, 460V

**Recommended Products For Start-Up**

- 628833-180: 4/0 cable, 15 ft / 4.6 m, Quick Connects QC-M to QC-F
- 628833-240: 4/0 cable, 20 ft / 6 m, Quick Connects QC-M to QC-F

**Mag Kit**

Modular Magnetic Particle Inspection System

The mag kit is a sectional magnetic particle testing system for low volume non-destructive testers with the benefits of an operational magnetic wet bench but without the investment of a production-level mag bench.

**Benefits & Features**

- Economical wet magnetic bench alternative
- Great for low-volume processing
- Easy to switch magnetizing current from head/tail to coil
- Modular design for versatility
- Uses a P-Series power pack as the power source
- Detects flaws in any direction
- Optional recirculating Mag Kit Spray System to apply magnetic particle bath pump
- Optional Mag Kit Hood for fluorescent magnetic particle inspections

**Part Numbers**

- 628834: Mag Kit with Quick Connectors
- 623830: Hood Assembly for Mag Kit
- 169621: Remote palm switch for Mag Kit

**Recommended Products For Start-Up**

- 628822: P-70 115 V / 60 Hz, Quick Connectors
- 628826: P-70 230 V / 50 Hz, Quick Connectors
- 69390: Mag Kit Spray System, 5 gal / 18.9 L capacity, 115 V / 60 Hz
- 69395: Mag Kit Spray System, 5 gal / 18.9 L capacity, 230 V / 50 Hz
- 628833-180: 4/0 Cable Assembly, 15 ft / 4.6 m, Quick Connect Terminals QC-M to QC-F
Magnetic Particle Testing
Magnetic Yokes
Y-2
AC Electromagnetic Ergonomic Yoke
The Y-2 is an AC electromagnetic yoke, ergonomically designed to improve productivity and reduce operator arm and wrist fatigue. The yoke generates a strong AC magnetic field for the detection of surface indications during magnetic particle testing.

Benefits

Increase inspector productivity and reduce physical fatigue
- Less arm strain, wrist fatigue and physical stress help operators get more done due to the lightweight and ergonomic design
- Easily position the yoke in any direction with lightweight, heavy-duty and powerful electronics components

Keep tools in service with a design that’s built to last
- Cords and triggers can be easily replaced, so work doesn’t stop and tools aren’t scrapped due to accidental damage.
- Prevent dust and dangerous water damage with an IP54 o-ring sealed housing

Features
- Ergonomic, light-weight design
- IP54 sealed housing resists dust and water
- Field-swappable power cord
- Isolated, replaceable trigger switch
- Steel shields for contact (pole) protection
- Exceeds ASTM lifting specifications
- Convenient carrying case supplied with all yoke shipments
- Optional LED yoke light lasts longer and is more intense compared to traditional bulbs

Part Numbers

628554: 110-115 V, US Type B plug (P)
628555: 220-230 V, EU Type F plug / UK Type G adapter (P)
628556: Y-2 MV Kit (P)
  • Y-2 AC Yoke (110-115 V / 50-60 Hz)
  • US Type B plug
  • #1 Gray and #8A Red Powders
  • Yellow paint marker & shop cloth
628557: Y-2 MV Kit (P)
  • Y-2 AC Yoke (220-230 V / 50-60 Hz)
  • EU Type F plug & UK Type G adapter
  • #1 Gray and #8A Red Powders
  • Yellow paint marker & shop cloth
Y-7
AC/DC Electromagnetic Yoke
The Y-7 is a durable, high-strength AC/DC magnetic yoke designed to detect surface and sub-surface indications in the most rugged applications.

Benefits & Features
- Sealed, durable construction
- Chemical and abrasion resistant
- AC and HWDC waveforms for surface and sub-surface inspection
- Exceeds ASTM lifting specifications

Part Numbers
- 628994: N. America Version
  - Y-8 DC Yoke
  - Sealed lead-acid battery (6V, 12 A-hr)
  - Battery charger, CEC compliant (115V / 60 Hz)
  - #1 Gray Powder
  - Yellow paint marker & shop cloth

- 630540: Global Version
  - Y-8 DC Yoke
  - Sealed lead-acid battery (6V, 12 A-hr)
  - Battery charger, global voltages (100/240V, 50/60 Hz)
  - #1 Gray Powder
  - Yellow paint marker & shop cloth

Y-8 MV Kit
DC Battery-Powered Electromagnetic Yoke Kit
The Y-8 is a battery-powered, DC electromagnetic yoke designed to stand up to the most rugged applications. True portability for magnetic particle inspection in the field and remote locations is achieved through a compact battery pack which provides a full 8-hour shift of inspection power.

Benefits & Features
- Sealed, durable construction
- Chemical and abrasion resistant
- AC and HWDC waveforms for surface and sub-surface inspection
- Exceeds ASTM lifting specifications
- Individual serial number for each yoke
- Convenient carrying case
- Great for job sights and field inspections
- Has everything needed for non-fluorescent / colored mag particle testing

Part Numbers
- 625643: 115 V / 50-60 Hz (P)
- 625644: 230 V / 50-60 Hz (P)
- 43509: Y-7 MV Kit (P)
  - Y-7 AC/DC Yoke (115 V / 50-60 Hz)
  - #1 Gray and #8A Red Powders
  - Yellow paint marker & shop cloth
- 620741: Y-7 MV Kit (P)
  - Y-7 AC/DC Yoke (230 V / 50-60 Hz)
  - #1 Gray and #8A Red Powders
  - Yellow paint marker & shop cloth

Magnetic Yokes
Yoke Light
Add-on Light for Y-2 Yokes
The LED yoke light is an add-on accessory for the Y-2 AC yoke which provides focused, visible light to the yoke inspection area when the yoke is activated. The high brightness light is designed to enhance visible detection of flaws and discontinuities under low conditions and in difficult to reach areas not accessible to a secondary light source.

Benefits
- No wiring connection necessary
- Automatically activated when yoke is energized
- Snap on assembly, no tools required for installation

Part Number
628840: Y-2 Yoke Light (P)

Yoke Test Weight
Use With AC Electromagnetic Yokes
The yoke test weight is a certified 10 lb / 4.5 kg weight designed specifically for AC magnetic yokes to confirm the yoke has sufficient strength to perform magnetic particle inspections. Each yoke test weight has a built-in leg positioning guide to assure balanced distribution and operator safety.

Benefits
- General purpose
- Balanced weight of 10 lb / 4.5 kg
- Leg positioning guide
- Serialized and certified
- Dimensions are 9 x 2 x 2 in (23 x 5 x 5 cm)

Part Number
624115: 10 lb / 4.5 kg Test Weight (P)

L-10 Coil
Portable Magnetic Coil, For Magnetic Particle Inspection
This handy portable AC magnetic coil is great for field applications to magnetize a variety of part sizes and shapes for magnetic particle inspection. The L-10 can also be used as a portable demagnetization coil for intermittent duty.

Features
- Coil ID: 10 in / 25 cm
- Coil OD: 15 in / 38 cm
- Flexible 10 ft / 3 m power cord
- 2,800 amp turns
- Palm / foot switch to energize

Part Numbers
630533: 115V, 60 Hz, 12A
630516: 230V, 50 Hz, 8A
Coil operates on 115V, step-down transformer included.
Magnetic Particle Testing
Accessories
QB2- Plus
Quick Break Tester
The QB2-Plus provides a quantitative verification of quick break function and measures the duration of the magnetizing shot. The QB2-Plus can verify the correct function of AC, HWDC, and FWDC equipment, and verify quick break function on 3-phase FWDC units. Shot time and quick break voltage are alternately shown on the LCD display after each reading.

Benefits & Features
- Simultaneous measurement of shot time and quick break
- Can be used with coils and cable wraps over 25 in (64 cm) diameter
- Quantitative results provide true verification of equipment

Part Number
628989: QB-2 Plus (P)

Ammeter Shunt Kit
For Magnetic Particle Inspection
The ammeter shunt kit is used to verify magnetizing current output of magnetic particle inspection equipment up to 10,000 amps on half-wave DC, 1-phase full-wave DC and 3-phase full-wave DC output, and up to 6,000 amps on AC current output.

Benefits
- Measures AC current up to 6,000 amps
- Measures HWDC, 1-Phase FWDC and 3-Phase FWDC up to 10,000 amps
- Includes calibrated shunt and interconnect cable
- Accuracy DC +/-2% or 30 A, AC +/-3% or 30 A
- Portable storage case

Part Number
622350: Ammeter Shunt Kit (P)

FSM-2
Magnetic Field Strength Meter
The FSM-2 is used for tangential measuring of the magnetic field strength in DC and AC fields. A tangential field probe is attached to the workpiece’s surface during magnetization, and the hall sensor measures the voltage change produced by the magnetic field. This meter measures the true RMS of asymmetric magnetic fields.

Features
- Equipped with a RS 232 interface and background display lighting
- With closed cover, the housing meets protection class IP65
- Supplied with a mains adapter and a tangential field probe

Part Number
133034: FSM-2 and Reference Block Kit

(P) = Preferred Product
Magnetic Particle Testing Accessories

**QQIs**  
Quantitative Quality Indicator Test Piece Shims  
QQIs, also known as standard notched shims, are manufactured to AS-5371 requirements and are used to verify the strength and orientation of magnetic fields within parts under test. 5 pieces per QQI part number.

**Part Numbers**
- **625551**: Standard QQI, CX-230 (KSC-230) (P)
- **625552**: Miniature QQI, CX4-230 (KSC4-230) (P)
- **625553**: Standard QQI, CX-430 (KSC-430) (P)
- **625554**: Variable QQI, 3C2-234 (KSCT-234) (P)

**Magnetic Flux Indicator Strips**  
Magnetic Field Verification Test Piece  
Flexible laminated strips used to verify the presence and direction of magnetic fields during the magnetic particle testing process. General use (Type 1 / Type G) strips contain three slots in the steel core: 0.0075 in / 0.1905 mm, 0.009 in / 0.1016 mm, and 0.010 in / 0.127 mm. Brass cladding on both sides of the strip provides protection against corrosion and allows the strips to be re-used multiple times.

**Part Number**
- **008M004**: Magnetic Flux Indicators, 5 pieces (P)

**Tool Steel Ring**  
Magnetic Particle System Performance Test Piece  
The tool steel ring is manufactured to AS-5282 requirements to demonstrate magnetic particle system performance. A progressive series of sub-surface holes are used to verify equipment performance at different amperages using HWDC or FWDC waveforms.

**Part Number**
- **159999**: Tool Steel Ring (P)

**Magnetic Particle Test Bar**  
Magnetic Particle System Performance Test Piece  
The MPI test bar is a standardized test piece conforming to NAVSEA T9074-AS-GIB-010/271 requirements to demonstrate magnetic particle system performance. The test bar includes both surface and sub-surface defects in two directions to verify both circular and longitudinal fields using AC or DC waveforms.

**Part Number**
- **189838**: Magnetic Particle Test Bar (P)
Pie Gauge
Magnetic field indicator
The magnetic particle pie gauge is used as an aid in determining the direction of magnetic fields for detection of discontinuities in ferrous metals.

Part Number
169799: Pie Gauge (P)

10 Gauss Field Gauge, Non-Calibrated
Magnetic field indicator gauge / Magnetometer
Rugged, pocket-size meters used to indicate residual magnetism remaining in part after magnetization, or to verify demagnetization. Inexpensive and disposable with no certification to maintain.

Part Number
2480: 10 Gauss Field Meter, Non-Calibrated (P)

10 Gauss Field Gauge, Calibrated
Magnetic field indicator gauge / Magnetometer
Rugged, pocket-size meters used to indicate residual magnetism remaining in part after magnetization or to verify demagnetization. Accurate to +/- 0.5 gauss with scale range of 10-0-10. Certification is provided.

Part Number
505056: 10 Gauss Field Meter, Calibrated (P)

20 Gauss Field Gauge, Calibrated
Magnetic field indicator gauge / Magnetometer
Rugged, pocket-size meters used to indicate residual magnetism remaining in part after magnetization or to verify demagnetization. Accurate to +/-1 gauss with scale range of 20-0-20. Certification is provided.

Part Number
105645: 20 Gauss Field Meter, Calibrated (P)
Magnetic Particle Testing Accessories

Centrifuge Tube
For Magnetic Particle Inspection
This line of centrifuge tubes is to help you easily and accurately measure the magnetic particle concentration of your mag particle bath as part of your regular system performance checks for ASTM E709, ASTM E1444 or ASME BPVC.

Part Numbers
8493: Centrifuge tube for 14A, 14AM, 20B particles (P)
2461: Centrifuge tube for 7C or 7HF particles
507923: Centrifuge tube for MG-410 or MG-450A particles
1837A: Centrifuge tube stand

Magnetic Particle Applicators
Magnetic Particle Spray System
To help you optimize your magnetic particle inspections, these magnetic particle applicators provide a convenient method for applying an even, adjustable flow of magnetic particles across large test parts or in situations where only spot particle application is required. The coverage speed and consistency provided by these applicators can dramatically improve application uniformity and part processing time.

Benefits & Features
- Continuously agitated bath keeps particles suspended and uniform through the tank
- Fully portable unit equipped with casters for easy mobility
- May be used for water or oil based solutions

Part Numbers
69390: Mag Kit spray system, 5 gal / 19 L capacity, 115V / 60 Hz
69395: Mag Kit spray system, 5 gal / 19 L capacity, 230V / 50 Hz
621778, Shown in image: Portable Spray System, 30 gal / 113 L capacity, specify 115V or 230V when ordering

(P) = Preferred Product
4/0 Cable Connectors
For Magnetic Particle Inspection Equipment

We offer a range of cables and connectors to allow you to outfit your magnetic bench or electromagnetic current generator to suit your specific parts and process. Whether you are testing a large investment casting or doing mag particle inspection in a difficult to reach location, these heavy-duty cables and connectors will help you set-up your Magnaflux machine just the way you need.

Part Numbers
626342: Standard 4/0Z Lug Cable Termination
628828: QC-F Female Quick Connect 4/0 Cable Termination (used with QC-M)
628829: QC-M Male Quick Connect 4/0 Cable Termination (used with QC-F)

4/0 Cables
For Magnetic Particle Inspection Equipment

Pre-assembled 4/0 cables are the easiest way to deliver magnetizing current to the weldment or casting under test. Available in standard or heavy-duty diesel locomotive grade, with lug or quick connect terminations to fit your equipment and application needs.

Part Numbers
626350-180: 15 ft / 4.57 m, Standard 4/0 Cable, lugs at both ends
628833-180: 15 ft / 4.6 m Standard 4/0 Cable, QC-F to QC-M
628833-240: 20 ft / 6.1 m Standard 4/0 Cable, QC-F to QC-M
628832: Lug to Quick Connect Adapter Set, includes 1 each Lug to QC-M and Lug to QC-F adapters

Custom-length cables are also available – please contact Magnaflux Customer Service for quotation.

Prods & Clamps
For Magnetic Particle Inspection

These handheld electrodes and contact clamps are convenient for conducting sectional magnetic particle inspections, like welds, castings or forgings, or testing parts that cannot be inspected on a wet horizontal bench, such as large fabrications, tubing, bars and tubular assemblies like aircraft mounts and fuselage sections.

Part Numbers
157662: Standard Prod Sets P-series 4/0 lug connections
622088*: Standard Prod Sets M-series 4/0 lug connections
1865A: Spring-Loaded Contact Clamps 4/0 lug connections
14710: Replacement Copper Braid for 1865A
169802: Heavy-Duty “C” Contact Clamp 4/0 lug connections

* Not for use with old M-500 Series Units
Copper Contact Pads
For Magnetic Particle Inspection Equipment
This range of copper contact pads come in a variety of shapes, sizes and types to make sure your magnetic bench is outfitted correctly for the parts you inspect. Magnaflux contact pads prevent arc burning, and ensure good, reliable electrical contact between the headstock and part.

Part Numbers
1848: Replacement Copper Pad, standard size contacts (4.75 x 7.50 in) (P)
18948: Double-Braided Pad with V-Block, standard size contacts (4.75 x 7.50 in) (P)
18949: Double-Braided Pad with Clip, standard size contacts (4.75 x 7.50 in)
14818: Copper Braid Contact Pad, large size contacts (4.75 x 10.50 in)

Lead Contact Pads
For Magnetic Particle Inspection Equipment
Lead contact pads are long-lasting without the risk of damage to expensive parts. Heavy duty braided lead pads are reinforced with copper braid to combine solid, reliable contact with the part with extreme durability.

Part Numbers
114184: Heavy Duty Braided Lead Pad, legacy equipment
605647: Lead Contact Plate, standard size contacts (12 x 10.50 in) (P)
605657: Heavy Duty, standard size contacts (0.25 x 6.75 x 6.625 in)
624789: Heavy Duty Braided Lead Pad, large size contacts (0.25 x 6.75 x 6.63 in)
69393: Heavy Duty Braided Lead Pad, Mag Kit (12 x 10.5 in)
Equipment Adapters
For Magnetic Particle Inspection
Make sure your Magnaflux magnetic bench works with every part you need to inspect with this range of equipment adapters. From large, heavy parts to small pieces like bolts, screws, and pins, Magnaflux equipment adapters help you get more out of your magnetic bench by helping you make it work for a wide variety of parts.

Part Numbers
622639: Central Conductors set of 3: 0.50 in / 1.3 cm, 0.75 in / 1.9 cm, 1.0 in / 2.5 cm diameter
1857: Steady Rest, Rail Mounted
605750: Steady Rest, Headstock Mounted, roller-type
621658: Steady Rest, Tailstock Mounted, roller-type
1830: Contact Block 4/0 lug connections
28470*: Small Parts Headstock Adapter
28471*: Small Parts Tailstock Adapter
* Only to be used with standard contacts. Do not use with 12 x 12 in contacts.

Central Conductors
Steady Rests
Contact Block
Small Parts Adapters
Fixed Coil
Magnetic Coil, For Magnetic Particle Inspection Benches
Ensure your magnetic inspection bench fits every part you test with this fixed magnetizing coil by outfitting your wet bench to match your range of parts, and optimize magnetic field application. Whether you are testing large pieces or small bolts, this heavy-duty magnetic coil will help you set-up your Magnaflux machine just the way you need.

Part Numbers
28501: 12 in / 30 cm
28511: 16 in / 41 cm
28531: 20 in / 51 cm
28541: 25 in / 64 cm

Flat Magnetic Coil
Portable Magnetic Coil, For Magnetic Particle Inspection
For non-contact magnetic particle inspection of small parts such as fasteners and ring-like parts. Can be used with any magnetic particle unit or power pack to allow for quick, easy processing of several small parts at one time.

Features
• 20 in / 51 cm long, 6.75 in / 17 cm wide
• 44 lb / 20 kg
• Includes 2 handles for loading and unloading

Part Number
611700: Flat Magnetic Coil
Magnetic Wet Bench Startup Kit

MPI Materials and Accessories

To perform magnetic particle inspections, you need equipment to magnetize the parts, materials to find indications, and accessories to support the system. These startup kits include all you need to commission your new magnetic wet bench equipment, whether you will be using Carrier II or water bath.

Benefits
- Superior fluorescent inspection performance
- Extends new equipment warranty

Features
- MPI materials to fill a standard-length bench unit

Part Numbers

621452: Startup Kit, Oil Bath
- Centrifuge Tube (14A)
- Centrifuge Tube Stand
- 10 Gauss Magnetic Field Gauge
- Pie Gauge
- UV Spectacles
- Double Braided Pad with V-Block, Quantity: 2
- Carrier II
- 14A

621453: Startup Kit, Water Bath
- Centrifuge Tube (14A)
- Centrifuge Tube Stand
- Gauss Magnetic Field Gauge
- Pie Gauge
- UV Spectacles
- Double Braided Pad with V-Block, Quantity: 2
- 14A Redi-Bath
Penetrant Testing Materials
### Penetrant Testing Materials Specifications

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Penetrant Testing Materials
Water Washable Fluorescent Penetrants

ZL-15B
Level ½ Water Washable Fluorescent Penetrant
ZL-15B water washable penetrant is a low-sensitivity penetrant that features excellent washability. It is used to find open surface flaws such as cracks and porosity in seams, laps, cold shuts, and laminations on castings, forgings, extrusions, and parts with rough surfaces.

Features
- Excellent washability
- QPL approved

Part Numbers
- 01-3159-40: 5 gal / 18.9 L
- 01-3159-30: 20 gal / 75.7 L drum
- 01-3159-45: 55 gal / 208 L drum

Product Properties
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ZL-19
Level 1 Water Washable Fluorescent Penetrant
A water-removeable level 1 penetrant, ZL-19 is designed for use on rough or unmachined surfaces such as castings and forgings to find larger discontinuities in non-safety critical components. It is ideal for inspecting automotive and general industrial components such as engine blocks, power train components, rocker arms, pistons, steering knuckles, and more.

Benefits
- Increase indication detection on cast parts & rough surfaces
- Speed up your inspection process
- Performance value
- Maximize operator comfort and safety

Features
- Level 1 sensitivity
- Water washable
- Excellent rough surface washability
- Bright, high contrast indications
- Clean rinsing on cast parts
- Will not clog spray nozzles in automated systems
- Good surface wetting
- High flash point
- Easy washability
- Less time to rinse
- Use less penetrant per part

Part Numbers
- 01-3263-40: 5 gal / 18.9 L
- 01-3263-45: 55 gal / 208 L drum (P)

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ZL-60D
Level 2 Water Washable Fluorescent Penetrant
Developed for testing rough machined surfaces, ZL-60D fluorescent water-removeable penetrant is ideal for finding indications in castings, forgings, extrusions and rough surfaces.

Features
- Bright, high-contrast indications
- Good removability
- Excellent rough surface washability
- Water washable
- Level 2 medium sensitivity
- High flash point
- Very low odor
- Better surface wetting
- Alloy compatibility
- High thermal resistance
- High UV stability
- Very low toxicity
- Low volatility
- Optimized capillary action
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

Benefits
Improve indication detection
- Makes indications stand out more by easily washing excess penetrant off with water
- Reduces background fluorescence, even on rough surfaces

Maximize application versatility
- Ideal for an extensive variety of part types due to level 2 sensitivity
- Universal specification conformance and fast, even surface wetting

Affordable performance
- Drives value at each step of the inspection process
- Quickly apply penetrant with high surface wetting
- Easily wash off with water
- Use less penetrant over time because of lower drag-out and slower evaporation

Part Numbers
01-3272-35: 1 gal / 3.78 L (case of 4)
01-3272-40: 5 gal / 18.9 L (P)
01-3272-30: 20 gal / 75.7 L drum
01-3272-45: 55 gal / 208 L drum (P)

Product Properties

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Penetrant Testing Materials
Water Washable Fluorescent Penetrants

**ZL-67**
Level 3 Water Washable Fluorescent Penetrant
A high-sensitivity level 3 penetrant, ZL-67 fluorescent water removeable penetrant is designed to find smaller, finer indications in safety-critical components common to aerospace and engineering applications. ZL-67 penetrant is often used to find flaws in investment castings, jet engine components, and highly machined surfaces.

**Benefits**
- Improve indication detection
- Wide range of inspections
- Maximize operator comfort and safety
- More reliable, consistent inspections

**Features**
- Level 3 high sensitivity
- Water washable
- Bright, high-contrast indications
- High flash point
- Wide range of application methods
- Controlled washability
- Low odor
- Very low toxicity

**Part Numbers**
- 01-3274-40: 5 gal / 18.9 L
- 01-3274-30: 20 gal / 75.7 L drum
- 01-3274-45: 55 gal / 208 L drum (P)

**Product Properties**

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**ZL-56**
Level 4 Water Washable Fluorescent Penetrant
An ultra-high sensitivity penetrant (level 4), ZL-56 fluorescent water-washable penetrant is safe for use on alloys in engineering and aerospace use, including aluminum, steel, nickel, and titanium. ZL-56 is designed for non-porous and highly machined components.

**Benefits**
- Bright, high-contrast indications
- Ideal for critical part inspection
- Ultra-high sensitivity for aerospace inspections
- QPL SAE AMS 2644 Qualified Product List

**Part Numbers**
- 01-3267-40: 5 gal / 18.9 L (P)
- 01-3267-45: 55 gal / 208 L drum

**Product Properties**

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ZL-2C
Level 2 Post Emulsifiable Fluorescent Penetrant

A medium sensitivity penetrant (level 2), ZL-2C fluorescent post-emulsifiable penetrant is designed to be removed from the part surface by emulsifiers or solvent. With a UV-A light source, indications will appear as a bright green-yellow fluorescence. ZL-2C has a high flash point, and is designed to be used in open dip tanks.

Benefits
- Bright indications
- Minimal background fluorescence
- High flash point
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

Part Numbers
- 01-3123-40: 5 gal / 18.9 L
- 01-3123-45: 55 gal / 208 L drum

Product Properties
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ZL-27A
Level 3 Post Emulsifiable Fluorescent Penetrant

Post-emulsifiable ZL-27A is a level 3, high-sensitivity Type 1 penetrant designed for inspections which require maximum process control and reliability, such as safety-critical aerospace testing.

Benefits
- Improve indication detection
- Maximize penetrant inspection process control
- Wide range of inspections
- Maximize operator comfort and safety

Part Numbers
- 01-3187-35: 1 gal / 3.78 L (case of 4)
- 01-3187-40: 5 gal / 18.9 L
- 01-3187-30: 20 gal / 75.7 L drum
- 01-3187-45: 55 gal / 208 L drum

Features
- Very low toxicity
- Alloy compatibility
- High thermal resistance
- High UV stability
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

Product Properties
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ZL-37
Level 4 Post Emulsifiable Fluorescent Penetrant

Essential for critical component applications, ultra-high sensitivity ZL-37 post-emulsifiable penetrant is designed for detecting fine, tight discontinuities in safety-critical components, such as titanium turbine components, and in high-stress parts, such as investment castings.

Benefits

Improve indication detection in the most critical applications

- Creates the clearest, brightest indications for even the finest flaws due to very strong UV and thermal stability
- Highest fluorescent brightness of any level 4 penetrant for high-contrast indications that are easy for inspectors to see – even when the indications are very small
- Indications stand out more since background fluorescence is minimized; emulsifiers only remove surface penetrant without the risk of over-washing

Maximize penetrant inspection process control

- Prevents over-washing since ZL-37 cannot be removed with water (unless combined with an emulsifier)
- Post Emulsifiable penetrant system is less susceptible to human error since only surface penetrant is removed in the final rinse stage

Wide range of inspections

- Inspect a wide range of high-value components without fear of corrosion or specification non-conformance
- Meets all major industry and NDT specification requirements, including Aerospace Prime and OEM specs, AMS 2644 and ISO 3452

Features

- Level 4 ultra-high sensitivity
- Post emulsifiable
- Bright, high-contrast indications
- Resists over-washing or over-removal
- High flash point
- Wide range of application methods
- Low odor
- Very low toxicity
- Alloy compatibility
- Very high thermal resistance
- Very high UV stability
- High dye content
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

Part Numbers
01-3188-35: 1 gal / 3.78 L (case of 4)
01-3188-40: 5 gal / 18.9 L
01-3188-30: 20 gal / 75.7 L drum
01-3188-45: 55 gal / 208 L drum (P)

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
<th>Required Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>Level 4 - Ultra-High Sensitivity</td>
<td>Method B, Method C, Method D</td>
<td>Post Emulsifiable</td>
<td>UV light source</td>
</tr>
</tbody>
</table>
ZL-405
Level ½ Water-Based Fluorescent Penetrant

ZL-405 is a water-based, water-washable fluorescent penetrant used for finding indications in castings, forgings, extrusions and other materials with rough surfaces commonly found in automotive part applications. ZL-405 is an ideal solution when waste water produced during the inspection process is a concern for the operation. ZL-405 is water based and contains no petroleum distillates, which may allow its rinse water to be disposed of directly into the sewage system depending on local regulations.

The penetrant features excellent rinse removability and is self-developing which means that separate developer may not be necessary depending on the application. ZL-405 is designed to be environmentally sensitive while meeting EN ISO 3452-2, and can be used in place of any conventional water-washable fluorescent penetrant.

Benefits
Reduce environmental footprint and waste-water pollutants
- Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
- Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
- Support a healthy environment with water-based penetrants that have minimal occupational health and safety impacts.

Reliably speed up inspection and wash processes
- Identify bright indications with superior sensitivity and low fluorescent background interference.
- Increase throughput and reduce costs by eliminating the developer step of inspection processes depending on procedures and requirements.
- Rapid rinse and post inspection washing of parts thanks to excellent washability properties, due to trade secret chemistry.

Features
- Level ½, very low sensitivity
- Hydrocarbon-free
- Biodegradable
- Excellent water wash removability
- Developer is not required

Part Numbers
01-3405-45: 55 gal / 208 L drum

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Method</th>
<th>Removal Type</th>
<th>Required Equipment</th>
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<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>Level ½ - Very Low</td>
<td>Method A(W)</td>
<td>Water Washable (Water Based)</td>
<td>UV light source</td>
</tr>
</tbody>
</table>
**ZL-425**

*Level 1 Water-Based Fluorescent Penetrant*

ZL-425 is a water-based, water washable fluorescent penetrant used for finding indications in castings, forgings, extrusions and other materials with rough surfaces commonly found in automotive part applications. ZL-425 is an ideal solution when waste water produced during the inspection process is a concern for the operation. ZL-425 is water based and contains no petroleum distillates allowing it to drain directly into the sewage system depending on local regulations.

ZL-425 has been specifically developed for use within the automotive sector and can also be used in applications where traditional petroleum solvent-based penetrants may attack the surface, such as plastics. The penetrant features great rinse characteristics allowing it to be self-developing, so you may not need to use a separate developer depending on the application.

ZL-425 is designed to be environmentally sensitive while meeting industry approvals, including EN ISO 3452-2 and AMS 2644, and can be used in place of any conventional water-washable fluorescent penetrant.

**Benefits**

*Reduce environmental footprint and waste-water pollutants*
- Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
- Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
- Support a healthy environment with water-based penetrants that have minimal occupational health and safety impacts.

*Reliably speed up inspection and wash processes*
- Identify bright indications with superior sensitivity and low fluorescent background interference.
- Increase throughput and reduce costs by eliminating the developer step of inspection processes depending on procedures and requirements.
- Rapid rinse and post inspection washing of parts thanks to excellent washability properties, due to trade secret chemistry.

**Features**
- Level 1, low sensitivity
- Hydrocarbon-free
- Biodegradable
- Excellent water wash removability
- Developer is not required

**Part Numbers**

01-3425-45: 55 gal / 208 L drum

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Method</th>
<th>Removal Type</th>
<th>Required Equipment</th>
</tr>
</thead>
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<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>Level 1 - Low</td>
<td>Method A(W)</td>
<td>Water Washable (Water Based)</td>
<td>UV light source</td>
</tr>
</tbody>
</table>
**ZL-440**

**Level 2 Water-Based Fluorescent Penetrant**

ZL-440 is a water-based, water washable fluorescent penetrant used for finding indications in castings, forgings, extrusions and other materials with rough surfaces commonly found in automotive part applications. ZL-440 is an ideal solution when waste water produced during the inspection process is a concern for the operation. ZL-440 is water based and contains no petroleum distillates allowing it to drain directly into the sewage system depending on local regulations.

ZL-440 has been specifically developed for use within the automotive sector and can also be used in applications where traditional petroleum solvent-based penetrants may attack the surface, such as plastics. The penetrant features great rinse characteristics allowing it to be self-developing, so you may not need to use a separate developer depending on the application.

ZL-440 is designed to be environmentally sensitive while meeting industry approvals, including EN ISO 3452-2 and AMS 2644, and can be used in place of any conventional water-washable fluorescent penetrant.

**Benefits**

**Reduce environmental footprint and waste-water pollutants**
- Reduce water treatment costs and discharge waste process water directly into the sewage system (depending on local regulations) due to minimal water-based contaminants.
- Meet or exceed local discharge regulations with low Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) levels.
- Support a healthy environment with water-based penetrants that have minimal occupational health and safety impacts.

**Reliably speed up inspection and wash processes**
- Identify bright indications with superior sensitivity and low fluorescent background interference.
- Increase throughput and reduce costs by eliminating the developer step of inspection processes depending on procedures and requirements.
- Rapid rinse and post inspection washing of parts thanks to excellent washability properties, due to trade secret chemistry.

**Features**

- Level 2, medium sensitivity
- Hydrocarbon-free
- Biodegradable
- Excellent water wash removability
- Developer is not required

**Part Numbers**

01-3425-45: 55 gal / 208 L drum

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Sensitivity</th>
<th>Penetrant Method</th>
<th>Removal Type</th>
<th>Required Equipment</th>
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<td>Type 1</td>
<td>Level 2 - Medium</td>
<td>Method A(W)</td>
<td>Water Washable (Water Based)</td>
<td>UV light source</td>
</tr>
</tbody>
</table>

(P) = Preferred Product
**ZL-4C**  
**Water-Based Fluorescent Penetrant**

Developed for testing materials that can be affected by petroleum-based penetrants, ZL-4C water-based fluorescent penetrant contains no petroleum derivatives and is harmless to materials that can be attacked by petroleum-based solvents, such as plastics. It is also safe for use on ceramics, and it can be used as a leak detector. It is always recommended that the inspection material is tested for compatibility with ZL-4C prior to use.

**Benefits**
- Water-based for specialty applications
- Safe for use on ceramics
- Can be used for leak detection
- Can be diluted with water

**Part Numbers**
- 01-3137-40: 5 gal / 18.9 L
- 01-3137-45: 55 gal / 208 L drum

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Required Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing</td>
<td>Type 1</td>
<td>UV light source</td>
</tr>
</tbody>
</table>
Penetrant Testing Materials
Emulsifiers

**ZR-10E**
Hydrophilic Emulsifier
Designed to remove excess surface penetrant, ZR-10E minimizes surface background during method D fluorescent penetrant testing while protecting indication integrity in critical component inspections. ZR-10E provides long tank life and excellent solution consistency for dependable, long-lasting performance in a variety of applications.

**Benefits**
- Maximize penetrant inspection process control
- Wide range of inspections
- Maximize operator comfort and safety

**Part Numbers**
- 01-3625-40: 5 gal / 18.9 L
- 01-3625-30: 20 gal / 75.7 L drum
- 01-3625-45: 55 gal / 208 L drum (P)

**Features**
- Hydrophilic emulsifier
- Reduces bleed-out on hollow parts
- Lower concentration required
- Resist degradation from bacteria, fungus or other contaminants
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

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**ZE-4E**
Lipophilic Emulsifier
A method B lipophilic emulsifier, ZE-4E diffuses into the penetrant to clear the penetrant from the surface of the part being inspected. It is rinsed from the part by water, carrying penetrant off the part’s surface. Designed to be used with post-emulsifiable penetrants level 2 ZL-2C, level 3 ZL-27A or level 4 ZL-37. Benefits include low volatility and a high flash point, so ZE-4E can be used in open immersion tanks.

**Features**
- Low volatility
- High flash point

**Part Numbers**
- 01-3550-40: 5 gal / 18.9
- 01-3550-30: 20 gal / 75.7 L drum
- 01-3550-45: 55 gal / 208 L drum (P)
Penetrant Testing Materials
Developers

ZP-4D
Dry Powder Developer
ZP-4D is a noncombustible dry powder developer for form A penetrant testing that is ideal for highly sensitive fluorescent penetrant processes. ZP-4D is applied to oven dried parts following the use of penetrants and forms a thin film on parts that enhances the visibility of ultra-fine discontinuities.

Benefits & Features
- Even, thin developer coverage
- Enhances visibility of ultra-fine discontinuities
- Non-combustible powder
- QPL SAE AMS 2644 Qualified Product List
- Approved for use by Pratt & Whitney

Part Numbers
01-3330-69: 10 lb / 4.53 kg pail
01-3330-75: 20 lb / 9.07 kg pail

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Type</th>
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<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1</td>
<td>Form A</td>
</tr>
</tbody>
</table>

ZP-14A
Water Soluble Developer
ZP-14A is a water-soluble developer for the enhancing penetrant indications during liquid penetrant inspections. It produces a uniform white porous coating when dry which is easily removed in post inspection cleaning by a water spray. Advantages include bright and highly defined indications, and can be cleaned with water.

Benefits & Features
- Bright, highly-defined indications
- Can be cleaned off with water
- Even, uniform coverage
- QPL SAE AMS 2644 Qualified Product List

Part Numbers
01-3381-75: 10 lb / 4.53 kg pail
01-3381-89: 50 lb / 22.6 kg pail

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Type</th>
</tr>
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<tbody>
<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form B</td>
</tr>
</tbody>
</table>
**ZP-5B**

**Water Suspendible Developer**

ZP-5B forms an opaque white coating that makes a contrasting background for indications. This white powder developer is mixed with water for use and disperses quickly to form an opaque white suspension, but must be continually agitated during use to ensure uniformity of mix as developer will settle out on standing.

**Benefits & Features**
- Non-flammable
- QPL SAE AMS 2644 Qualified Product List

**Part Number**
- 01-3341-81: 25 lb / 11.3 kg pail

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Type</th>
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<tbody>
<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form C</td>
</tr>
</tbody>
</table>

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**ZP-9F**

**Solvent Based Developer**

ZP-9F is a non-aqueous developer made of organic particles, used often in aerosol cans. It produces a fast-drying, opaque white coating and contrasting background for fluorescent and visible penetrant inspections.

**Benefits**
- Provides excellent background contrast
- Fast drying
- Thin opaque coating masks surface blemishes
- QPL SAE AMS 2644 Qualified Product List

**Part Numbers**
- 01-3354-78: Aerosol can (case of 12) (P)

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form D, Form E</td>
</tr>
</tbody>
</table>
SKD-S2
Solvent Based Developer
A bright white, non-aqueous developer, SKD-S2 creates an opaque white background for high-contrast penetrant testing and quickly draws penetrant out to create stronger, clearer indications for better inspection reliability and sensitivity.

Benefits

Increases indication visibility
- Improves indication detection by creating an optimal surface for penetrant indication formation
- Bright white, opaque coverage blocks all underlying surface color and quickly draws penetrant to the surface for stronger, clearer indications

Application versatility
- Can be used with a variety of Type 2 and Type 1 penetrants in many different situations without measuring or diluting
- ISO 3452 conformance allows SKD-S2 to be used to inspect a wide range of parts

Faster cleaning
- Reduces inspection process time by minimizing post-inspection cleaning
- Easy-to-apply formula goes on cleanly, dries quickly and promotes faster indication formation to shave time off each step of the inspection process

Features
- Bright white color
- Provides good background contrast
- Nonfluorescent
- Wicks penetrant out of indications
- Fast drying
- Easy to apply
- Convenient, ready to use formula
- Very low toxicity
- Matte, opaque coating
- Easy to clean

Part Numbers
01-5352-78: Aerosol can (case of 12) (P)
01-5352-35: 1 gal / 3.78 L
01-5352-40: 5 gal / 18.9 L
01-5352-45: 55 gal / 208 L drum (P)

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Developer Form</th>
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</thead>
<tbody>
<tr>
<td>Fluorescent Penetrant Testing, Visible Penetrant Testing</td>
<td>Type 1, Type 2</td>
<td>Form D, Form E</td>
</tr>
</tbody>
</table>
SKL-SP2
Solvent Removable Visible Dye Penetrant
SKL-SP2 is a solvent removable penetrant for portability, especially for welding operations, and is post emulsifiable for greater resolution of flaw indications. SKL-SP2 dependably locates surface flaws and discontinuities with a simple three-step process that is ideal for basic industrial NDT and for people looking to get into nondestructive testing. It produces a visible red color contrast, and features outstanding penetrating characteristics.

Benefits
Fastest inspection processing
- Reliable, simple 3-step process is a convenient and easy-to-use solution for preventative maintenance and control checks
- Quickly and completely covers the entire test surface due to high surface wetting
- Remove excess penetrant without water to eliminate the need to dry parts before applying developer

Dependable and convenient to use
- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage and maximum test area coverage
- Use in all conditions without the need for darkness or UV lights

Maximum indication detection
- Produces strong, vibrant indications thanks to the bright, vibrant red color, especially when used with SKD-S2 solvent-based developer

Wide application versatility
- Inspect a wide range of components without fear of corrosion or specification non-conformance
- Meets AMS 2644 and is NDT-approved for professional industrial applications

Features
- Solvent removable
- ISO 3452 sensitivity level #2
- Can be used for method B, method C and method D
- Simple, easy-to-use process
- Vivid, high-contrast red color
- Superior flaw resolution
- Good surface wetting
- Optimized capillary action
- Works in visible light
- Very low toxicity
- Low odor
- NDT-spec compliant

Part Numbers
01-5155-78: Aerosol can (case of 12) (P)
01-5155-35: 1 gal / 3.78 L
01-5155-40: 5 gal / 18.9 L
01-5155-45: 55 gal / 208 L drum
01-5920-48: SK-816 (P)
  - SKC-S, 4 aerosol cans
  - SKL-SP2, 2 aerosol cans
  - SKD-S2, 2 aerosol cans

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
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<tbody>
<tr>
<td>Visible Penetrant Testing</td>
<td>Type 2</td>
<td>Method B, Method C</td>
<td>Solvent Removable</td>
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</tbody>
</table>
**SKL-WP2**

**Water Washable Visible Dye Penetrant**

Developed for large surface areas and rough surfaces where excess penetrant is difficult to remove with a solvent removable cleaner or emulsifier, SKL-WP2 is a water-removable dye penetrant for type 2 penetrant testing in visible white light.

**Benefits**
- Dependable and convenient to use
- Maximum indication detection
- Wide application versatility
- Maximize operator comfort and safety

**Part Numbers**
- 01-5190-78: Aerosol can (case of 12) (P)
- 01-5190-35: 1 gal / 3.78 L
- 01-5190-40: 5 gal / 18.9 L
- 01-5190-45: 55 gal / 208 L drum (P)

**Features**
- Easy, water-wash removal
- Can be used with method A or method C
- Vivid, high-contrast red color
- Superior flaw resolution
- Good surface wetting

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
</tr>
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<tbody>
<tr>
<td>Visible Penetrant Testing</td>
<td>Type 2</td>
<td>Method A, Method C</td>
<td>Water Washable</td>
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</tbody>
</table>

**SKL-4C**

**Water-Based Visible/Fluorescent (Dual-Purpose) Penetrant**

Specially designed for chemically sensitive plastic parts, and for leak detection, SKL-4C is a red dye visible penetrant that is water based and water washable. As with most plastic parts, it is recommended that a trial application be used to confirm compatibility.

**Benefits**
- Water based
- Can be used for leak detection
- Can be used in visible and UV light inspections

**Part Numbers**
- 01-5125-40: 5 gal / 18.9 L
- 01-5125-45: 55 gal / 208 L drum

**Product Properties**

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Penetrant Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible Penetrant Testing</td>
<td>Type 2</td>
<td>Method A, Method C</td>
</tr>
</tbody>
</table>
SKC-S
NDT Cleaner & Remover
SKC-S is an NDT-approved solvent cleaner/remover for pre-cleaning before non-destructive testing and for removing excess surface penetrant from an inspection area before applying developer during liquid penetrant testing.

Benefits
Maximize range of inspections
- Inspect a wide range of components without worry
- Conforms to AMS 2644 Class 2, ASME BPVC and all major aerospace requirements

Application versatility
- Use a single cleaner throughout the entire penetrant testing process
- Comes in both bulk and aerosol forms, or as part of a kit for convenience

Minimize risk of missing a flaw
- Inspect reliably by cleaning only the surface without flushing penetrant out of discontinuities
- Dries quickly without leaving residue to prevent false indications

Features
- AMS 2644 Class 2 nonhalogenated remover
- Fast drying
- Leaves no residue
- Suitable for use at low temperatures
- Alloy compatibility
- Bulk or aerosol form
- Does not over clean

Part Numbers
01-5750-78: Aerosol can (case of 12) (P)
01-5750-35: 1 gal / 3.78 L
01-5750-40: 5 gal / 18.9 L
01-5750-45: 55 gal / 208 L drum

SK-816 Kit
Visible Dye Penetrant Testing Kit
SK Kits are a convenient collection of three Magnaflux dye penetrant testing consumable products that come in an easy-to-use aerosol form for Type 2 penetrant non-destructive testing.

Each penetrant testing kit comes with SKC-S, SKL-SP2, and SKD-S2.

Benefits
- A convenient and easy-to-use solution that provides everything needed for dye penetrant testing
- Simple 3-step process for preventative maintenance and control checks
- Vivid, high-contrast color
- Superior flaw resolution
- Excellent reliability
- AMS 2644 QPL approved

Part Numbers
01-5920-48: SK-816 (P)
- SKC-S, 4 aerosol cans
- SKL-SP2, 2 aerosol cans
- SKD-S2, 2 aerosol cans

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Penetrant Type</th>
<th>Penetrant Methods</th>
<th>Removal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible Penetrant Testing</td>
<td>Type 2</td>
<td>Methods B / C</td>
<td>Solvent-removable</td>
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</tbody>
</table>
Penetrant Testing Equipment
ZA-1227
Fluorescent Penetrant Testing Equipment System
ZA-1227 systems are compact fluorescent penetrant inspection systems for batch and low volume inspection of small to medium size parts, including aerospace fasteners, automotive parts and surgical implant inspection.

Features
• Compact Size
• 304 Stainless Steel Tanks (16 Gauge)
• Durable Welded Steel Frame
• EV6000 UV lamp
• Adaptable To Multiple Applications

Part Numbers
621792: Method A for water washable penetrant testing has five stations
622036: Method B post-emulsifiable, lipophilic has six stations
622103: Method D post-emulsifiable, hydrophilic has seven stations
522143: Dynamic Cloud Developer Upgrade Kit for ZA-1227 Developer Tank
609178RE: Lid for ZA-1227 Tank

ZA-1633
Fluorescent Penetrant Testing Equipment System
ZA-1633 systems are stand-alone fluorescent penetrant inspection systems for light volume inspection of small to medium size parts, including aerospace fasteners, automotive parts and surgical implant inspection.

Features
• 304 stainless steel tanks (16 gauge)
• Durable welded steel frame
• Digitally calibrated dryer control
• EV6000 UV lamps
• Stand-alone inspection booth
• Visible light in inspection hood
• Ventilation fan in inspection hood

Part Numbers
621791: 230V, Method A for water washable penetrant testing has 6 stations
621791-01: 460V, Method A for water washable penetrant testing has 6 stations
522092: Method B post-emulsifiable, lipophilic has 8 stations
522094: 230V, Method D post-emulsifiable, hydrophilic has 9 stations
522094: 460V, Method D post-emulsifiable, hydrophilic has 9 stations
522084: Dynamic Cloud Developer Upgrade Kit for ZA-1633 Developer Tank
609178-P: Lid for ZA-1633 Tank
Penetrant Testing
Accessories
**NiCr Test Panels**
*For Liquid Penetrant Testing NDT*
NiCr test pieces for liquid penetrant inspection will help you maintain your PT testing process by verifying penetrant sensitivity and performance. Use to check for penetrant deterioration, to compare different penetrants or to verify sensitivity or visibility. NiCr test panels are ideal penetrant sensitivity comparators. They come in pairs, with panel set crack depths available in 20 microns.

**Part Number**
506252: NiCr Test Panels, 20 micron, set of two (P)

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**Portable Pressure Sprayer**
*Penetrant Testing Applicator*
The portable pressure sprayer is easy to use, light-weight pressure sprayer for spot application of penetrants, developers and cleaners. It is easy to disassemble for cleaning, has a 1 quart capacity and a maximum pressure of 200 psi.

**Benefits**
- Easy to disassemble for cleaning
- 1 quart capacity
- Maximum pressure of 200 psi

**Part Number**
625773: Portable Pressure Sprayer

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**Water Spray Gun**
*Penetrant Testing Applicator*
The water spray gun is designed for pre and post rinsing of water-wash or post-emulsifiable penetrant system parts, provides optimal coarse spray to help prevent part over-washing.

**Part Number**
520090: Water Spray Gun with hose adapter (P)
UV Lamps
UV Lamps

EV6000
Hand-Held LED UV Lamp
The EV6000 LED UV lamp is a portable, hand-held UV lamp for fluorescent non-destructive testing applications like fluorescent penetrant testing and fluorescent magnetic particle inspections. Includes certification to all aerospace specifications, including ISO 3059, ASTM E3022, RRES 90061, and AITM6-1001, and meets all Nadcap requirements.

**Benefits**
- Minimizes time to inspect parts
- Maximize range of inspections
- Improves operator comfort
- Increases real-world reliability

**Features**
- 5,000 $\mu$W/cm² maximum irradiance at 15 in / 38 cm
- 9 in / 23 cm wide, uniform circular beam
- Light weight at only 2 lb / 0.9 kg
- No hot-spots in the beam profile
- IP65 rated, rugged, durable design
- No internal fan
- Low energy consumption
- Aerospace prime and OEM certified
- Improved operator and environmental safety
- Certified to ASTM / RRES / AITM / NADCAP

**Part Numbers**
- 625784: EV6000 (North America) (P)
- 628785: EV6000 Canada (CSA)

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EV6500
High-Intensity, Dual-Light LED UV Lamp
The EV6500 is a hand-held, portable LED UV lamp with built-in white light LEDs for non-destructive testing applications like fluorescent penetrant testing and fluorescent magnetic particle inspections. Includes high intensity UV-A and white light modes, with manufacturer certification of peak wavelength and intensity.

**Benefits**
- Minimizes time to inspect parts
- Improves visibility & versatility
- Increases real-world reliability
- Safer working conditions

**Features**
- 7,000 $\mu$W/cm² high intensity UV-A illumination
- 10 in / 25 cm wide, uniform beam
- No hot-spots in the beam profile
- Built-in LED white light
- Single push-button operation for UV and white light
- Rugged, durable design
- No internal fan
- Low energy consumption
- Improved operator and environmental safety

**Part Number**
- 626803: EV6500 (North America) (P)
ST700
Stationary Inspection LED UV Lamp for Fluorescent NDT

The ST700 is an inspection-grade overhead LED UV flood lamp with high-intensity UV-A illumination for non-destructive testing examinations such as fluorescent penetrant and magnetic particle testing. Modular control cable mounts separately in the inspection area, allowing the operator to select between UV-A and white light modes. Includes certification to all aerospace specifications, including ISO 3059, ASTM E3022, RRES 90061, AITM6-1001, and meets all Nadcap requirements.

Benefits

Speed up the inspection process
- Inspect more of the part at once thanks to the ultra-wide beam
- Eliminate additional steps and equipment involved with using a secondary hand-held inspection lamp

Minimize risk of missing indications
- Indications stand out bright and clear due to high intensity LED technology
- Mount the light out of the way, up to 46 in / 117 cm above the inspection surface while still maintaining inspection level intensity

Real-world reliability
- Fully sealed construction prevents dust and water damage
- Maintain UV intensity and coverage over time with non-clouding, proprietary lenses
- Rugged, impact resistant metal construction designed for NDT environments

Work in comfort
- Keeps inspection booths cool thanks to the fan-less, LED technology
- Eliminates hazardous mercury vapor for safer working conditions and better EHS compliance
- Easily maintain and changeover equipment with built-in white light

Features
- High intensity compliant UV-A illumination
- 20 x 26 in (50 x 66 cm) wide, uniform beam on standard model at 36 in (90cm)
- IP65 sealed construction prevents damage from water, vapor or dust
- Angled mounting brackets
- No hot-spots in the beam profile
- Aluminum body in a rugged, durable design
- No internal fan necessary
- Aerospace prime and OEM certified
- Certified to ASTM, AITM, RRES and Nadcap

Part Number
628243: North American Model (P)
Magnetic Bench Mounting Adapters
For Fluorescent Non-Destructive Testing
Magnafux UV lamp and black light mounting hardware and accessories allow stabilized, hands-free use of portable black lights and LED UV lights during fluorescent non-destructive testing such as fluorescent liquid penetrant testing or fluorescent magnetic particle inspection.

Part Numbers
623365: Wet Bench Mounting System
623367: Black Light Ceiling Mount Assembly
622596: Modular Black Light 5.5 Extension
623365: Modular Black Light 7.5 Extension

ST700 Hood Mount
For Fluorescent Magnetic Particle Testing
The ST700 hood mount is designed for use with standard magnetic wet bench hoods. Four directions of movement allow the operator to position the ST700 anywhere within the hood for full part inspection. For large and heavy parts, overhead crane loading and unloading is made easy. The ST700 can be moved out of the way and hood can be retracted giving free access to the equipment bench.

Part Number
628388: ST700 Mount

UV-A Radiometer
Measures UV-A Irradiance
The UV-A meter is a compact, rugged, easy to operate, digital radiometer for measuring and calibrating UV-A black light sources used in fluorescent penetrant testing and fluorescent magnetic particle inspections for non-destructive testing.

Part Number
625024: UV-A Light Meter (P)

Visible Light Meter
Measures visible light in foot-candles or lux
The visible light meter accurately measures visible light in either foot-candles or lux and includes a permanently affixed visible light sensor specially constructed to measure visible white light for non-destructive testing.

Part Number
622338: Visible Light Meter
Ultrasonic Couplants
Ultrasonic Couplants
General Purpose Couplants

Ultragel II
High Performance Ultrasonic Couplant
Ultragel® II is an industry-leading, high-performance, ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

Benefits
- Clings well to vertical and overhead surfaces
- Fills in depressions in rough surfaces
- Highest corrosion protection
- Slow drying for longer inspection time
- Provides good transducer lubrication
- Increased acoustic impedance reduces surface noise
- Wide range of specifications and approvals
- Thixotropic gel
- Great surface wetting
- Nuclear grade
- Aerospace approvals
- Hydrogen embrittlement testing

Part Numbers
25-912: 12 fl oz / 354 mL bottles (case of 12)
25-901: 1 gal / 3.78 L cubitainer
25-905: 5 gal / 18.9 L cubitainer
25-955: 55 gal / 208 L drum

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Comparative Viscosity</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic Testing</td>
<td>5.0</td>
<td>Most composites and metals</td>
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</tbody>
</table>

Soundsafe
High Performance Ultrasonic Couplant
Soundsafe® is a high-performance, general-purpose ultrasonic couplant for flaw detection and sizing, thickness gauging, flow metering and acoustic emission testing.

Benefits
- Wide range of specifications and approvals
- Great surface wetting for fast, even coverage
- Thixotropic gel
- Non-toxic, non-irritating formula
- Increased acoustic impedance reduces surface noise
- Clings well to most vertical and overhead surfaces
- Highest corrosion inhibition
- Provides good transducer lubrication
- Slower drying for extended inspection time
- Nuclear grade
- Aerospace approvals
- Hydrogen embrittlement testing

Part Numbers
20-901: 1 gal / 3.78 L
20-905: 5 gal / 18.9 L
20-955: 55 gal / 208 L drum

Product Properties

<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Comparative Viscosity</th>
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</table>
Sonotrace 30
General-Purpose Ultrasonic Couplant
Sonotrace® 30 is a general-purpose ultrasonic couplant in medium-thick gel viscosity for flaw detection and thickness gauging applications. This glycerin-free couplant is a great choice for applications requiring minimum halogens, sulfur and low melting point metals, and offers good performance at a lower price point.

Part Numbers
42-901: 1 gal / 3.78 L
42-905: 5 gal / 18.9 L
42-955: 55 gal / 208 L drum

Product Properties
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<tr>
<th>NDT Type</th>
<th>Comparative Viscosity</th>
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<tbody>
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Echogel 20
Economical Ultrasonic Couplant
Echogel® 20 is an economical, basic-use couplant in medium-thick gel viscosity for ultrasonic inspections, like flaw detection/sizing and thickness gauging, where salt cake or metal corrosion salts are present. It provides good corrosion inhibition and resists viscosity breakdown on salt-caked boilers and other corroded materials.

Part Numbers
48-901: 1 gal / 3.78 L
48-905: 5 gal / 18.9 L
48-955: 55 gal / 208 L drum

Product Properties
<table>
<thead>
<tr>
<th>NDT Type</th>
<th>Comparative Viscosity</th>
<th>Compatibility</th>
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<tbody>
<tr>
<td>Ultrasonic Testing</td>
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<td>Most composites and metals</td>
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UT-X Powder
Ultrasonic Couplant Powder
UT-X® Powder is a cost-effective couplant powder for flaw detection and thickness gaging applications where ferrous corrosion inhibition is required.

Part Numbers
62-110: 1 gal / 3.78 L
62-510: 5 gal / 18.9 L

Product Properties
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Sono 600
High-Temperature Ultrasonic Couplant
Sono 600 is a versatile, multi-purpose couplant with a wide operating temperature range for flaw detection, thickness gauging and acoustic emission testing in petrochemical, power generation, automotive, aerospace, food processing equipment and pharmaceutical manufacturing.

Benefits
- Economical high-temperature couplant
- Excellent corrosion inhibition
- Very slow drying for extended inspection time or long-term coupling
- Non-toxic, biodegradable formula

Part Numbers
- 45-6XT04: 4 fl oz / 118 mL tubes (case of 6)
- 45-901: 1 gal / 3.78 L

Product Properties
<table>
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<tr>
<th>NDT Type</th>
<th>Comparative Viscosity</th>
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<tbody>
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Sono 1100
High-Temperature Ultrasonic Couplant
Sono 1100 provides coupling for high-temperature thickness gauging and will maintain acoustic coupling at high temperatures beyond 15 seconds to give ample time to obtain thickness readings. In most cases, the signal strength increases with time to the point of the couplant’s thermal decomposition.

Benefits
- Extended open time window for longer inspections or to optimize thickness readings at high temperatures
- Medium viscosity paste
- Non-toxic, non-irritating formula
- Excellent corrosion inhibition

Part Numbers
- 30-6XT04: 4 fl oz / 118 mL tubes (case of 6)
- 30-901*: 1 gal / 3.78 L
  * One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.

Product Properties

<table>
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<tr>
<th>NDT Type</th>
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Pyrogel 100
Wide Temperature Range Ultrasonic Couplant
Pyrogel® is a broad temperature range couplant for thickness gauging, flow metering, acoustic emissions testing and flaw detection/sizing. These products contain no polymers and resists drying, making them an excellent choice for long term flow metering applications.

Benefits
- Broadest temperature range
- Non-drying for long-term coupling or extended inspection time
- Good choice for long-term flow metering
- Excellent long-term corrosion inhibition
- Pyrogel 100 clings well to vertical and overhead surfaces

Part Numbers
24-6XT04: 4 fl oz / 118 mL tubes (case of 6)
24-901*: 1 gal / 3.78 L
* One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.

Product Properties
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<th>NDT Type</th>
<th>Comparative Viscosity</th>
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<td>Ultrasonic Testing</td>
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Pyrogel 7
Wide Temperature Range Ultrasonic Couplant
Pyrogel® is a broad temperature range couplant for thickness gauging, flow metering, acoustic emissions testing and flaw detection/sizing. These products contain no polymers and resists drying, making them an excellent choice for long term flow metering applications.

Benefits
- Broadest temperature range
- Non-drying for long-term coupling or extended inspection time
- Good choice for long-term flow metering
- Excellent long-term corrosion inhibition
- Pyrogel 100 clings well to vertical and overhead surfaces

Part Number
21-901*: 1 gal / 3.78 L
* One (1) week lead time. Minimum order quantity is two (2) 1 gallon jugs.

Product Properties
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<td>Thin Liquid</td>
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Aqueous Cleaners
# Aqueous Cleaners Specifications

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<th>pH Level</th>
<th>Darclean 212</th>
<th>Darclean 235</th>
<th>Darclean 236</th>
<th>Darclean 282</th>
<th>Darclean 282GF</th>
<th>Darclean 283</th>
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</table>
Daraclean 212
Neutral Aqueous Cleaner
A foaming, all-purpose neutral cleaning solution meant for a broad spectrum of soils. Daraclean® 212 is formulated with a blend of surfactants, emulsifiers, and corrosion inhibitors, and is safe to use on most metals, while being non-aggressive with aluminum and titanium alloys.

Part Numbers
01-6030-40: 5 gal / 18.9 L
01-6030-45: 55 gal / 208 L drum (P)

Product Properties

<table>
<thead>
<tr>
<th>pH Level</th>
<th>Foam Level</th>
<th>Silicates</th>
<th>Hard Water Tolerance</th>
<th>Aerospace Compliant</th>
<th>SCAQMD Certified</th>
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<tbody>
<tr>
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</table>

Daraclean 235
Neutral Aqueous Cleaner
Daraclean® 235 is a low-foaming, neutral cleaning solution for general use on a broad spectrum of soils and safe to use on most metals, non-aggressive on aluminum, brass, copper, titanium and zinc alloys. Soil-rejecting properties suspend soils in the solution and can be filtered and skimmed to extend the life of the cleaner much further than emulsion cleaners.

Part Number
01-6050-45: 55 gal / 208 L drum

Product Properties

<table>
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<th>pH Level</th>
<th>Foam Level</th>
<th>Silicates</th>
<th>Hard Water Tolerance</th>
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</thead>
<tbody>
<tr>
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<td>Low</td>
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<td>Yes</td>
<td>No</td>
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</table>

Daraclean 236
Neutral Aqueous Cleaner
Daraclean® 236 is a moderate-foaming, all-purpose neutral cleaner for a wide range of soils and safe to use on most metals and removes tarnish from brass, bronze, and copper alloys. Excellent soil-rejecting properties keep soils suspended until solids settle and oil and grease coalesce and float, to be removed by filtering or skimming, which extends the life of the cleaner much further than emulsion-type solutions.

Part Number
01-6040-45: 55 gal / 208 L drum (P)

Product Properties

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<th>pH Level</th>
<th>Foam Level</th>
<th>Silicates</th>
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<td>High</td>
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</table>
Aqueous Cleaners
Alkaline Industrial Parts Cleaners

Daraclean 282
Alkaline Aqueous Cleaner
A low-foaming, all-purpose alkaline cleaning solution for Aerospace, Daraclean® 282 is an excellent cleaner for a broad spectrum of soils.

Benefits
- Maximize range of use
- Maximize operator comfort and safety

Part Numbers
01-6000-40: 5 gal / 18.9 L
01-6000-45: 55 gal / 208 L drum (P)

Features
- Multi-purpose alkaline cleaner
- Low foam level
- Aerospace compliant
- Works on a wide range of materials
- Cleans a broad spectrum of soils
- Multi-metal safe
- Low silicates
- Low residue

Product Properties
<table>
<thead>
<tr>
<th>pH Level</th>
<th>Foam Level</th>
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</table>

Daraclean 282GF
Alkaline Aqueous Cleaner
Daraclean® 282GF is a high-performance cleaner for a broad spectrum of soils. A low-foaming all-purpose glycol-free alkaline cleaning solution with a unique blend of surfactants and corrosion inhibitors, it meets or exceeds the specifications for most aerospace applications for aqueous and alkaline cleaners.

Benefits
- Alkaline cleaner
- SCAQMD Clean Air Certified
- Aerospace approved cleaner
- Low foam level
- Rust inhibitor
- Works on a wide range of materials
- Cleans a broad spectrum of soils

Part Number
01-6010-45: 55 gal / 208 L drum (P)

Product Properties
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<th>pH Level</th>
<th>Foam Level</th>
<th>Silicates</th>
<th>Hard Water Tolerance</th>
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Daraclean 283
Alkaline Aqueous Cleaner
Daraclean® 283 is a low-foaming, powerful alkaline cleaning solution formulated for use on a broad spectrum of soils, composed of surfactants, emulsifiers, and corrosion inhibitors. It is safe to use on most metals and is non-aggressive towards titanium alloys.

Benefits
- Heavy-duty, high alkaline cleaner
- Low foam level
- Corrosion inhibitor
- Soil rejecting properties
- Aerospace approved

Part Number
01-6060-45: 55 gal / 208 L drum

Product Properties
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<th>pH Level</th>
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<th>Hard Water Tolerance</th>
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