

In addition to our wide range of coatings for Aerospace Engineering, and utilising the modern technologies used to develop and manufacture these coatings, Indestructible also offer a range of high performance products for use in general industrial applications.

This listing gives a flavour of these coatings; more information is available on the individual technical data sheets, which can be obtained from your usual sales contact or through our sales office at sales@indestructible.co.uk. Copies of safety data sheets are also available on request.

Coating Systems for Metals

Pre-Treatment Systems

Surface treatment must be regarded as an integral part of any painting system on any substrate, but specifically on metals.

The most basic pre-treatment is a simple degrease using either solvents or aqueous degreasing chemicals.

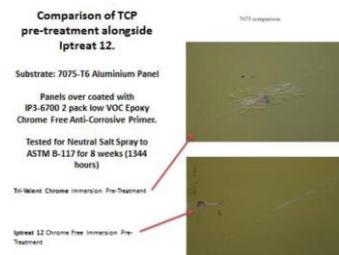
A further abrasion treatment will help subsequent paint adhesion. This can be a simple abrade with coarse wet and dry paper, or grit blasting or shot blasting, typically to Swedish standard SA2½.

Further chemical pre-treatments will be used and will vary dependent upon metal type. For steels these would traditionally be based on a phosphate process, either iron phosphate or zinc phosphate. For aluminium or magnesium, a chromate process was traditionally preferred.

With the introduction of REACH, and additional legislative processes, chrome free alternative systems are being introduced. Indestructible can offer the following:

Iptreat 12

A chrome free spray or immersion treatment that acts as an effective adhesion promoter, particularly on aluminium and magnesium. Whilst offering limited corrosion protection in its own right, the benefits of greatly increased adhesion of subsequent anti-corrosive primers vastly reduces corrosion of the substrate, particularly filiform corrosion.



Magsol

Chrome free Sol Gel, developed in conjunction with a UK university. For application by spray, dip, or brush, Mag Sol will provide corrosion protection on both magnesium and aluminium, providing 168 hours salt spray resistance to ASTM B-117.

IP2878 Range; Self Phosphating Coating for Steel

Chrome free coating applied by dip, spray or brush which provides an iron phosphate conversion coating, with a thin film resistant paint coating. Available in clear, black or red.

Single Pack Etch/Wash Primers

Fast dry chrome free anti-corrosive single pack etch/wash primers. Application by spray, dip or brush on small areas. Available in light grey (40013); medium grey (40065) and black (40018).



Two Component Etch/Wash Primer 40042 Base/40022 Acid Component

Chrome free anti-corrosive etch/wash primer, based on proven aerospace technology. Provides excellent corrosion resistance and adhesion of subsequent primer/finish system.

Air Dry Systems, Single Pack

30-xxxx Range Nitro-Cellulose

Quick drying clear and pigmented finishes for exterior and interior use.

Range of clear lacquers formulated to include acid accelerator for direct adhesion to polished brass and other decorative metals.

32-xxxx Range Air Drying Coach and Machinery Finishes

Primer: 25773-R2 Grey and White zinc phosphate primer for general metal priming. Formulated for brush/roller application: can be sprayed. Dry for overcoating in 16-24 hours.

Finish: Range of colours, available typically as gloss finishes, but can be supplied in semi-gloss and satin finishes. Excellent durability and gloss retention on exterior applications. Formulated for brush or roller application but can be sprayed. Drying 16-24 hours.



41-xxxx Range QAD Primer and Finishes

Primer: Zinc phosphate containing spray primer. Mainly supplied as either a light grey (ADP01) or black (ADP04). Dry for overcoating in 1-2 hours.

Finish: White, Black and colours quick dry spray finishes for use over ADP primers, or as direct to metal coatings. Touch dry in 20 minutes; Dry for handling in 1 hour.

Stoving/Baking Systems

38-xxxx Range Alkyd Amino Stoving

Multi-purpose low temperature stoving enamel. Provides tough, flexible high gloss finish used on a wide variety of metal finishing applications. Typical cure schedule 30 minutes @ 120°C

31-xxxx Range Fast Set Up Stoving Lacquers



Epoxy modified stoving lacquers formulated for use on polished brass and decorative metals. Fast surface dry to eliminate dirt pick up prior to stoving. Typical cure schedule 20 minutes @ 150°C.

34-xxxx Range Fast Set Up Stoving Finishes

Epoxy modified stoving finishes, pigmented or coloured versions of 31-xxxx range. Again exhibit fast surface set up to minimise dirt inclusion. Typical cure schedule 20 minutes @ 150°C.

36-xxxx Range Epoxy Modified Stoving Finishes

Epoxy modified alkyd-amino stoving primer and finishes, clear and pigmented, for use when high resistance properties are the requirement. Improved hardness, chemical and salt spray resistance compared with 38-xxxx and 34-xxxx ranges. Typical cure schedule 30 minutes @ 150°C

39-xxxx Range Epoxy Stoving Finishes

Full epoxy-amine stoving primer, clear and pigmented finishes giving the ultimate technical performance for chemical and corrosion resistance, surface hardness. Based on technology utilised in aerospace finishing for the protection of magnesium and aluminium components. Typical cure schedule 60 minutes at 180°C.



Two Component Systems

42-xxxx Standard 2 Pack Epoxy Primer and Finishes

Primer: 42-6500 chrome free anti-corrosive primer for aluminium, magnesium and steel. Excellent corrosion resistance allied to good chemical resistance.

Finishes: a range of colours, available as gloss, semi-gloss satin and matt finishes for finishing internal components. Excellent chemical resistance and hardness. Not suitable

for exterior use, as, on long term exposure to UV light coating will chalk, lose gloss, and eventually break down.

53-xxxx Range Low VOC 2 Pack Epoxy Primers and Finishes

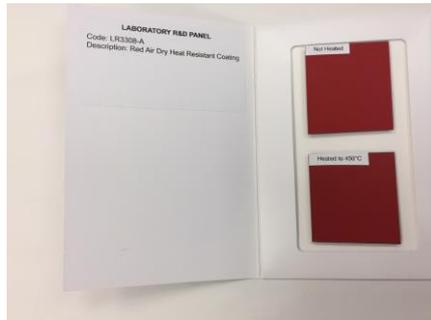
Primers: 53-6500 chrome free anti-corrosive primer for aluminium, magnesium and steel. Excellent corrosion and general chemical resistance. Increased fluid resistant grade: 53-6700.

Finishes: a range of colours, available as gloss, semi-gloss satin and matt finishes for finishing internal components. Excellent chemical resistance and hardness. Not suitable for exterior use, as, on long term exposure to UV light coating will chalk, lose gloss, and eventually break down.

48-xxxx Range Low VOC 2 Pack Polyurethane Finishes

Low VOC high performance 2 pack polyurethane finishes with excellent build and gloss. Based on aerospace technology formulation which exceeds stringent aerospace durability standards. Available in full gloss, semi-gloss and matt finishes.

85-xxxx Range High Temperature Coatings



Coating Range formulated for air drying/low temperature curing to provide a high temperature weather resistant coating, capable of resisting temperatures up to 1000°C. The system is designed for use in environments where curing at ambient temperatures or where curing temperatures no higher than 80°C are the only possible curing mechanism. The coating is a two-part solvent thinned system that can be brush, roller or spray applied and is intended as a direct to metal thin film application.

Ipslip Low Friction Coatings/Dry Film Lubricants

IP7985 PTFE Stoving Coating

High performance low friction coating containing PTFE, based on epoxy-amine resin technology to provide ultimate chemical and corrosion performance. Excellent low friction properties. Typical
Cure schedule 60 minutes @ 180°C. Available in a limited range of colours.



IP7480 2 Component PTFE Coating

Where high temperature stoving is not available, 2 component room temperature cure alternative. Excellent low friction properties, allied to exterior durability. Used for example on extending arms of cherry pickers etc. Air dry 16-24 hours, can be force cured for 60-90 minutes @ 60-90°C

Available in a limited range of colours.

IP5105 Molybdenum Disulphide Dry Film Lubricant

Molybdenum Disulphide loaded lubricating coating designed for operating conditions up to 300°C. For use in areas where high wear and pitting occur and as a protection against fretting. Suitable where short service life occurs due to chemical attack, corrosion or high temperature or where lubrication intervals are too short.

Coating Systems for Plastics and Composites

In most cases a simple degrease would be a typical pre-treatment for most thermoplastics and composites. Polypropylene (PP) will however need a flaming treatment before painting, to adjust surface tension and enable paint adhesion. Nylon can be a difficult substrate for paint adhesion, dependent upon grade.

Composites can benefit from a light abrasion before paint application, typically with 180-320 grit papers.

Coatings for Thermoplastics

33-xxxx Range 1 Pack Acrylics

One Coat finish for exterior or interior use on range of thermoplastic mouldings, typically HIPS; ABS; polycarbonate; PP(over suitable primer). Provides a tough but flexible coating resistant to chemicals, fuels etc. Typical applications on automotive trim components, audio-visual units, and all plastic mouldings requiring a durable, handleable finish. Air dry 4 hours; can be force cured for 20-30 minutes @ 40-60°C.

51xxx Ultra-Violet Cure Clearcoats

A range of clear lacquers that cure under exposure to UV light. Typically used either as direct to plastic or applied over 33-xxxx quality basecoat.



Hardcoat: 51003-R1 100% convertible solids/51006 reduced solids. Applied typically to polycarbonate mouldings to give superior resistance to scratching, damage etc. Used on military jet canopies; car headlights, phone lenses. Cure under UVC light in 3-5 seconds.

Anti-fog: 51024; Latest generation clearcoat for application onto polycarbonate sheeting used for virus protection screens etc. Prevents/reduces misting from condensation/breath etc. Cure under UVC light in 3-5 seconds.

Coatings for Composites

53-2439 Green Tinted Composite Sealer

2 component green tinted sealer for use as a composite sealer, where the surface of the component is variable with resin rich and resin weak areas. Resin chemistry is similar to that used in production of the composite. Provides smooth, even surface for further paint treatments.

53-00015 2 Pack Epoxy Primer-Surfacer

2 component low VOC high build primer-surfacer for use on composite components. Spray applied; gives excellent filling of variable surface composites. Excellent sanding properties to provide smooth even surface for final finishing. Will air dry; various catalysts available to give faster cure times but with reduced pot life. Can be force cured; typical schedule 30 minutes @ 125°C.



53-00019 2 pack Epoxy Lightweight Thermal Filler

2 component low VOC epoxy thermal filler incorporating a new low weight hollow filler medium. Allows high build application with minimal weight disadvantages to give excellent filling properties. The hollow filler medium used provides a thermal barrier to heat transmission.

42-xxxx Standard 2 Pack Epoxy Finishes

A range of colours, available as gloss, semi-gloss satin and matt finishes for finishing internal components. Excellent chemical resistance and hardness. Not suitable for exterior use, as, on long term exposure to UV light coating will chalk, lose gloss, and eventually break down.

53-xxxx Range Low VOC 2 Pack Epoxy Finishes

A range of colours, available as gloss, semi-gloss satin and matt finishes for finishing internal components. Excellent chemical resistance and hardness. Not suitable for exterior use, as, on long term exposure to UV light coating will chalk, lose gloss, and eventually break down.

48-xxxx Range Low VOC 2 Pack Polyurethane Finishes

Low VOC high performance 2 pack polyurethane finishes with excellent build and gloss. Based on aerospace technology formulation which exceeds stringent aerospace durability standards. Available in full gloss, semi-gloss and matt finishes.

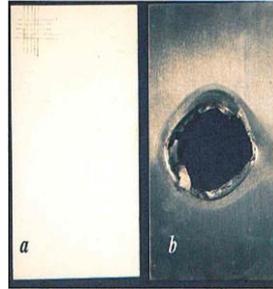
Intumescent Coatings

IP9198A/B

2 component thin film intumescent coating to protect components and quell fire. Dependent upon applied film thickness, can provide up to 15 minutes total protection.

IP1265

2 component thermal intumescent coating. Provides additional protection of components by reducing heat transfer from fire. Reduced char compared with IP9189, so suitable for use on components in limited space.



Panel a – coated with IP9189 before test.
Panel b – identical aluminium panel after 2 minutes flame exposure



Panel a - showing depth of "char" created after 5 minutes flame exposure.

Production Aids

Stop Off Lacquers

Temporary protective coatings or maskants for use where short term protection of a substrate is required. Typically used as maskants in plating operations where parts of components do not require treatment.

Peelcoat

Yellow peelable stop off lacquer for use as a maskant in both acidic and alkaline plating operations. Withstands many chemicals and acids. Easily peeled off substrate once processing complete.

PL81-R3

Acrylic based blue tinted stop off lacquer. Resistant to plating solutions, hydrofluoric and nitric acid. Used as a maskant in electroless nickel plating. Removed by immersion in strong solvents (MEK; Acetone).

PL106

Vinyl based red tinted stop off lacquer. Resistant to hydrochloric acid and plating solutions. Removeable with strong solvents (MEK; Acetone).

PL37

2-part tin rich Anti-Nitriding stop off lacquer.

PL500-R1

Stop off for use with high speed laser drilling. Designed to capture dross from cutting operation without damage to component. Rolls-Royce specification CSS196. Removable with water.

PL200

Anti-Spatter/Stop Off lacquer for use as a surface protection when electron beam welding. Prevents weld spatter on key surfaces around welding area. Removal by vapour degreasing or strong solvents.

Ancillary Paints and Associated Products

Fluorescent and Luminescent Paints

A 2/3 coat system for both fluorescent and luminescent coatings to provide identification of safety items etc in areas of low visibility or darkness.

The fluorescent coating is available in a limited range of colours.

The luminescent is a pale-yellow colour in daylight but glows bright yellow in darkness. "Charging" of the coating is required under natural light.



Agricoat/Infracoat



Water based maintenance coating formulated on weather and chemical resistant emulsions to provide exterior durability and resistance to chemicals. Originally designed for use in agricultural applications, where resistance to livestock chemicals and cleaning solutions was a necessity, it is now used in multiple building applications. Has excellent adhesion to a wide range of substrates, including galvanising. Limited colour range available.

Agricoat Sealer

Water based PVA sealant for treating porous/loose surfaces prior to further finishing with Agricoat/Infracoat.

Rusteta

Rusteta is a water based chelating polymer, designed for field application to rusted steel which has been hand or power cleaned, or sand blasted. Rusteta neutralizes the corrosion process. It reacts quickly with the rust and transforms iron oxides into a stable and insoluble blue-black metallo-organic complex which will be ready for painting after reaction.

Pitan Rust Remover

Non-toxic; non-combustible, odourless. Removes iron oxide by mild complexing action- does not attack molecular structure of uncorroded metal. Effectively cleans brass, copper and other decorative metals.

Wadpol

Super-Shine Polish. Highly effective polish impregnated wadding that cleans and polishes weathered or corroded aluminium and painted surfaces. Provides long term protection due to in-built corrosion inhibitors.

Paint Stripping/Removal Systems

All current paint strippers and removal systems are free from DCM (Dichloromethane), but are still specifically recommended for industrial use only.

300-100-001 Rockhard Paint Stripper

Highly effective one component product for removal of high-performance coatings.

Used in an immersion process, at 40°C temperature; rapidly removes most paint systems. Benefits from use with ultra-sonic system.

IPstrip 500 Gelled Paint Stripper

Ipstrip 500 Gel is a highly effective gelled paint stripper which is user/ environmentally friendly as it is non-toxic and biodegradable. Ipstrip 500 Gel also offers very low VOC emissions, is non ozone depletant and is not regulated by authorities for transport, storage or health and safety. Ipstrip 500 Gel is safe for use on most metal components, including steel and aluminium and can also be used for stripping plastics and composites; however, it is recommended that a small area is initially tested for compatibility. Recently approved within "Warpaint".