

POWDER COATING

ThermaShield Anti-microbial Polyester Powder Coatings

Product Description:

Thermaset Limited offer a range of polyester powder coatings containing an effective anti-microbial agent designed for both interior and exterior use. This range is specially formulated on selected polyester resins and pigments to give a tough decorative finish with excellent outdoor durability with the added benefit of an effective anti-bacterial agent called SteriTouch which kills most species of bacteria and discourages the settlement of harmful bacteria, fungi and mould.

Range Available:

Thermaset's ThermaShield Anti-microbial Polyester range is designated the prefix TLISA, any colour available by arrangement.

TLISA- -G Polyester Gloss ThermaShield Anti-microbial Powder Coating

TLISA- -S Polyester Semi-gloss ThermaShield Anti-microbial Powder Coating

TLISA- -M Polyester Matt ThermaShield Anti-microbial Powder Coating

Substrate Preparation:

For maximum adhesion the substrate must be thoroughly cleaned of grease, rust etc. by shot blasting, solvent or chemical degreasing. For maximum protection it is essential to pretreat the substrate prior to the application of Thermaset Limited ThermaShield Anti-microbial Polyester Powder Coating.

Aluminium components should receive a full multi-stage chromate conversion coating or similar chrome-free pretreatment to clean and prepare the substrate. Detailed advice should be sought from the pretreatment supplier.

Galvanized steel requires multi-stage pretreatment with either zinc phosphate or chromate conversion.

Depending on the type of galvanizing, degassing or use of anti-bubbling additives may be required. Detailed advice should be sought from the pretreatment supplier.

Ferrous substrates require iron or zinc phosphate pretreatment. Detailed advice should be sought from the pretreatment supplier.

Application:

Thermaset Limited ThermaShield Anti-microbial Polyester Powder Coatings can be applied by manual or automatic electrostatic spray equipment, an even dry film thickness of 60-70 microns is recommended. Only one batch and one spray run should be used for components that will be visible simultaneously after assembly.

Powder Properties:

Type	Thermosetting polyester with a non-TGIC curing agent.
60° Gloss (EN ISO 2813)	Gloss, semi-gloss or matt as requested.
Specific Gravity	1.2 -1.8 depending on colour
Particle size	Suitable for electrostatic spray
Stoving schedule	See box label for recommended curing conditions. Typical values are; Gloss and semi-gloss 10 minutes @ 180°C peak metal temperature Matt 10 minutes @ 200°C peak metal temperature
Storage and shelf life	12 months when stored in cool (below 25°C) dry conditions. Open boxes must be resealed.

Antibacterial Effect:

Thermaset's ThermaShield Anti-microbial Polyester has achieved > 99.9% kill rates over a 24 hour period against both

Staphylococcus aureus Methicillin-Resistant Strain (MRSA) and Escherichia coli (E Coli)

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Test Conditions:

Mechanical test panels 60-70 microns on polished steel. Chemical and durability test panels 60-70 microns on lightweight zinc phosphate. Results shown below are for laboratory test conditions and are given in good faith for guidance only.

Mechanical Tests:

Flexibility (cylindrical mandrel)	ISO 1519	Pass minimum 5mm
Buchholz Hardness	ISO 2815	Pass minimum 80
Impact	ISO 6272-2	Pass minimum 2.5Nm
Erichsen cupping	ISO 1520	Pass minimum 5mm
Adhesion (2mm cross hatch)	ISO 2409	Pass Gt 0

Chemical Tests:

Constant Humidity	ISO 6270	Pass 1000 hours.
Boiling water	2 hours	No defects or detachments.
Salt Spray Resistance	ASTM B117	Pass 1000 hours.
Sulphur Dioxide	ISO 3231	After 24 cycles, infiltration < 1mm from scratch.
Mortar resistance	EN 12206-1	Easy to remove, no staining.

Exterior Durability:

After 12 months exposure, minimal loss of gloss or colour change. No film breakdown or loss of protection.

Chemical Resistance:

Generally good resistance to acids, alkalis and oil at normal temperatures.

Health and Safety Precautions:

This product is intended for use only by professional applicators in industrial environments. Consult the relevant Material Safety Data Sheet available from Thermaset.

Restrictions of Hazardous Substances (RoHS2):

Thermaset Limited ThermaShield Polyester Anti-microbial Powder Coatings are suitable for use on items covered by Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (Directive 11/65/EU, ROHS 2). This product contains none (or less than the maximum allowed amount) of the following restricted chemicals:-

Lead, Mercury, Cadmium, Hexavalent Chromium or their compounds.
Poly-brominated biphenyl (PBB) or Poly-brominated diphenyl ether (PDBE) flame retardants.
Bis(2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate (DIBP)

Additional Information:

Thermaset Limited has developed these TLSA ThermaShield anti-bacterial powder coatings to aid the inhibition of bacterial growth on coated metal surfaces. They are not intended to replace or reduce existing hygiene or cleaning regimes but as an additional protection against bacterial growth.

Our data sheets and sales literature are issued for the purpose of supplying product information. The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. Always read the Material Safety Data Sheet and the Technical Data Sheet for the product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous improvement. It is the user's responsibility to verify that this data sheet is current prior to using the product.