NorthWest® Aluminium

TECHNICAL DATASHEET

Polyester (PP) Powder Coatings

Description

General Paints Polyester Powder Coatings provides the latest TGIC-free technology with excellent decorative effect and superior outdoor durability. Particular attention has been given to colour and gloss retention both in an exterior environment and at elevated temperatures. PP Polyesters are available in gloss, semi gloss, matt and textures.

These properties together with the associated toughness and flexibility of powder coatings make *General Paints* Polyester Powder Coatings suitable for architectural aluminium, road wheels, garden furniture, bicycles, automotive components and all heavy industrial equipment.

Main Properties

- Excellent outdoor durability.
- Outstanding flow and appearance.
- Superior application characteristics.
- Good gloss and colour retention.
- Excellent mechanical properties.
- Tough durable coating.
- Resistance to discoloration on overheating.
- High degree of protection against corrosion.
- Uniform films at low film weight.
- Excellent flexibility.
- Good chemical resistance.

Pretreatment

To ensure maximum adhesion the substance must be thoroughly clean, and free from grease, dirt, and any other contaminant. Cleaning can be carried out either by solvent or chemical degreasing or shotblasting.

For applications requiring high corrosion or chemical resistance, it is essential to pretreat the substance prior to powder coating: -

- Ferrous substrate - Iron or Zinc phosphate
- Zinc coated steel - Zinc phosphate or Chromate conversion
- Aluminium - Chromate conversion

Electrostatic Application

General Paints Polyester Powder Coatings are suitable for use with all types of manual or automatic electrostatic spray equipment.

Curing

10 mins. at 185°C Metal temperature (Gloss & Semi Gloss)
10 mins. at 200°C Metal temperature (Matt)

Polyester (PP) Powder Coatings cont'd

Specification

Appearance:	A smooth free flowing gloss powder
Coating thickness:	Typically 50-80 microns on a cold substrate
Particle size:	0.5% max > 90 microns - 50-60% >32 microns
Specific gravity:	1.4-1.7 (depending on the colour)

Mechanical Properties

Adhesion:	(ISO 2409):	Cross Hatch 100%, no detachment
Flexibility:	(BS3900 E1): 0.25 inch	Mandrel. Excellent Pass
Scratch Resistance:	(BS3900 E2): 4000 grams.	Excellent Pass
Impact Resistance:	Reverse 160-inch lbs	Excellent Pass
Hardness:	3H Pencil Test.	Excellent Pass

(all tests carried out on 0.8mm degreased panel, having a 50 micron film thickness)

Corrosion Resistance

Salt Spray:	(ISO 9227 NSS): 1000 hours.	Excellent. No breakdown
Corrosion resistance	(SCAB test): 5 Cycles	No breakdown, moderate blistering
Corrosion resistance	(15cycles/industrial atmosphere)	Little effect
Humidity:	(BS3900 F2): 1000 hours.	Excellent. No blistering
Water Soak:	at 40°C: 1000 hours	Excellent. No breakdown

(all tests carried out on a lightweight Zinc Phosphate panel having a 50 micron film)

Heat Stability

Good gloss and colour retention at continuous temperatures up to 140°C and intermittent up to 160°C.

Exterior Exposure

Artificial weathering BS EN ISO 11507: 2001, minimal colour change and gloss reduction after 2000 hours.
12 months Florida exposure (45° angle), minimal colour change and gloss reduction.

Chemical Properties

Good resistance to most acids, alkalis, oils and solvents at normal temperatures. May be affected by Ketonic or Chlorinated solvents.

Organisational Data

Supply:	25kg plastic lined cartons
Storage:	Store under dry conditions at temperatures below 25°C
Shelf life:	For above conditions, 12 months minimum

Health & Safety

General Paints Polyester Powder Coatings should be used in conjunction with the Material Safety Data Sheet supplied with the product.

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MATERIAL SAFETY DATA SHEET

MSDS A1 (Products with a label ref. A1)

1. Identification of the Preparation and Company

Product name and/or code:	Products with an **A1** label
Intended use:	Powder Application by Electrostatic Spray
Name and Address:	General Paints, Maynooth Road, Celbridge, Co Kildare.
Emergency telephone number:	**00353 1 6288224**

2. Composition/Information on Ingredients

This product contains no substances presenting a health hazard within the meaning of the Chemicals (Hazard Information and Packaging) Regulations 1996.

3. Hazard Identification

This product is not classified as dangerous according to the Chemicals (Hazard Information and Packaging) Regulations 1996.

4. First Aid Measures

General:
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation:
Remove to fresh air, keep the patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Give nothing by mouth. If unconscious, place in the recovery position and seek medical advice.

Eye Contact:
Contact lenses should be removed. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart, and seek medical advice.

Skin Contact:
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleaner.
Do **NOT** use solvents or thinners

Ingestion:
If accidentally swallowed obtain immediate medical attention. Keep at rest. Do **NOT** induce vomiting.

5. Fire Fighting Measures

Extinguishing media:

Recommended:	alcohol resistant foam, CO^2 blanket, water spray/mist.
Not to be used:	high-pressure inert gas (e.g. CO^2), water jets.

Recommendations:
Fire will produce dense black smoke containing hazardous products of combustion (see section10).
Exposure to decomposition products may be a hazard to health. Appropriate self-contained breathing apparatus may be required. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or watercourses.

6. Accidental Release Measures

Exclude sources of ignition and ventilate the area. Exclude non-essential personnel. Avoid breathing dust. Refer to protective measures listed in section 7 and 8 Contain and collect spillages with an electrically protected vacuum cleaner or by wet brushing and place in a closed container for disposal in accordance with the waste regulations (see section 13). Do not use a dry brush as dust clouds or static can be created. Do not allow to enter drains or watercourses.

If the product enters drains or sewers, the local Water Company should be contacted immediately; in the case of contamination of streams, rivers or lakes, the Environmental Protection Agency.

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7. Handling and Storage

Handling:
Precaution should be taken to prevent the formation of dusts in concentrations above explosive or occupational exposure limits. Electrical equipment and lighting should be protected to appropriate standards and to prevent dust coming into contact with hot surfaces, sparks or other ignition surfaces. Keep the container tightly closed. Exclude sources of heat, sparks and open flame.

Avoid the inhalation of dusts. Smoking, eating and drinking should be prohibited in areas of storage and use. For personal protection see section 8. The Manual Handling Regulations may apply to the handling of containers of this product. Refer to the guide weight indicated on the container when carrying out assessments.

Storage:
Observe the label precautions. Store between 5º and 25ºC in a dry, well-ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers, which are opened, should be properly resealed and kept upright to prevent leakage.

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8. Exposure Controls/Personal Protection

Persons with a history of respiratory problems or allergic responses should only be exposed to, or handle, this product under appropriate medical supervision.

Engineering Measures:
Avoid the inhalation of dusts. Where reasonably practical this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of dust below the occupational exposure limit, suitable respiratory protective equipment should be worn.

Exposure Limits:
Coating powders should be treated as nuisance dusts and the general 8 hour time weighted average, occupational exposure standards for dusts are:-

Inhalable dusts	10mg/m^3
Respirable dusts	4mg/m^3

Personal Protection:
All ppe, including rpe, used to control exposure to hazardous substances must be selected to match the requirements of the COSHH Regulations.

Respiratory Protection:
Suitable respiratory equipment should be worn when this product is sprayed if the exposure of the sprayer or other people nearby cannot be controlled to below the occupational exposure limit and engineering controls and methods cannot reasonably be improved.

Hand Protection:
Where skin exposure may occur, advice should be sought from glove suppliers on appropriate types. Barrier creams may help to protect exposed areas of the skin but are not suitable for full physical protection. They should not be applied once exposure has occurred.

Eye Protection:
Eye protection designed to protect against exposure to dusts should be worn when there is a likelihood of exposure.

Skin Protection:
Cotton or cotton/synthetic overalls or coveralls are normally suitable. Care should be taken in the selection of protective clothing to ensure that inflammation and irritation of the skin at the neck and wrists through contact with the powder is avoided.

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9. Physical and Chemical Properties

physical state:	fine powder
specific gravity:	1.2-1.9
solubility in water:	immiscible
minimum ignition temp.:	400°C
minimum ignition energy:	5-20mJ
minimum explosive concentration (LEL):	30g.m.$^{-3}$

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10. Stability and Reactivity

Stable under the recommended storage and handling conditions (see section 7). In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide and oxides of nitrogen may be produced.

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11. Toxicological Information

There is no data available on the product itself. Coating powders can cause localised skin irritation in folds of the skin or in contact with tight clothing.

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12. Ecological Information

There is no data available on the product itself. The product should not be allowed to enter drains or watercourses or be deposited where it can affect ground or surface waters. The Air Pollution Control requirements made under the Environmental Protection Act may apply to the use of this product.

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13. Disposal Considerations

Do not allow into drains or water courses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act. (Using information provided in this data sheet, advice should be obtained from the Waste Regulation Authority whether special waste regulations apply.)

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14. Transport Information

The product is not classified as dangerous for carriage under European or International regulations.

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15. Regulatory Information

This product is determined as not being dangerous according to the requirements of the chemicals (Hazard Information and Packaging) Regulations 1996.
The information contained in this safety data sheet does not constitute the user's own assessment of the workplace risks as required by other health and safety legislation. The provisions of the Health and Safety at Work etc. Act and the Control of Substances Hazardous to Health Regulations apply to the use of this product at work.

16. Other Information

The information in this safety data sheet is provided in accordance with the requirements of the Chemicals (Hazard Information and Packaging) Regulations. The following safety phrases are included on the label:-

S38	In cases of insufficient ventilation wear suitable respiratory equipment
S24/25	Avoid contact with skin and eyes.

The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.
The information contained in this safety data sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as a guarantee of technical performance or suitability for particular application.
Further information and relevant advice can be found in:-
The Control of Substances Hazardous to Health Regulations 1988 (SI 1988:1657)
The Application of Powder Coatings by Electrostatic Spraying (Code of Safety Practice) from the British Coatings Federation.
The Manual Handling Operations Regulations 1992 (SI 1992:2793)
Storage of Packaged Dangerous Substance HS (G) 71
The Environmental Protection (Duty of Care) Regulations 1992 (SI 1992:2839)