

# Crystal™

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## Clear Polyester Powder Coating

**Product Code:** 904 Line

**Specification met:**

### Description

Crystal™ is a pure polyester powder coating formulated to show outstanding flow and clarity whilst retaining the performance properties expected of polyester powder coatings. It has been developed to show a very rapid cure response.

### Features

### Benefits

|                         |  |
|-------------------------|--|
| Film integrity          | Long intact life of coating  |
| Tough polyester         | Hard wearing / serviceable finish                                  |
| No solvent or emissions | Less waste and pollution to the environment                        |
| Fast cure               | Reduced out gassing in diecasts and heat deformation to substrates |
| Excellent clarity       | Minimal colour change to polished aluminium and/or initial coat    |
| Excellent flow          | Appearance of 'wet look' similar to wet paint clears and acrylics  |

### Uses

Crystal™ was originally developed for the alloy road wheel industry, where the lower temperature curing offers significant benefits.

Since the introduction it has also found significant use in the protection and decoration of polished and plated metals along with top coats for powder metallic finishes.

### Performance Guide

|                    |   |                             |  |
|--------------------|---|-----------------------------|--|
| <b>Weather</b>     | Good resistance to weathering. Suitable for outdoor applications. | <b>Salt Spray</b>           | Good.<br>< 3mm adhesion loss at scribe after 250 hours salt spray on pre-treated steel, 1000 hours on pre-treated aluminium. |
| <b>Heat</b>        | Excellent resistance to 120°C continuous service conditions.      | <b>Humidity</b>             | Good resistance to 38°C/100% humidity for 1000 hours on pre-treated aluminium.   |
| <b>Acid</b>        | Resistant to spills of dilute acid. Avoid contact.                | <b>Abrasion</b>             | Very good resistance to abrasion.  |
| <b>Alkali</b>      | Resistant to spills of dilute alkali. Avoid contact.              | <b>Pencil Hardness</b>      | Min H  |
| <b>Flexibility</b> | Pass 160 inch/lb  | <b>Cross Hatch Adhesion</b> | No removal   |

### Chemical Resistance

|                            |                       |                      |                                |
|----------------------------|-----------------------|----------------------|--------------------------------|
| <b>Mortar</b>              | Resistant             | <b>White Spirits</b> | Resistant                      |
| <b>Ethanol</b>             | Resistant             | <b>Xylene</b>        | Slight softening/limit contact |
| <b>Methyl Ethyl Ketone</b> | Softens/avoid contact | <b>Ethyl Acetate</b> | Softens/avoid contact          |



## Crystal™

### Product Guide

|                    |                |                         |   |
|--------------------|----------------|-------------------------|---|
| <b>Colour</b>      | Clear          | <b>Specific gravity</b> | 1.2 – 1.3                                       |
| <b>Gloss Level</b> | 90% min at 60° | <b>Shelf life</b>       | 12 months when stored below 30°C/dry conditions |

### Application Data

|                             |   |                       |  |
|-----------------------------|---|-----------------------|--|
| <b>Application Method</b>   | Electrostatic spray.                                      |                       |  |
| <b>Clean Up</b>             | Dust or vacuum loose powder. Avoid use of compressed air. |                       |  |
| <b>Cure Schedule</b>        | <b>Metal Temperature (°C)</b>                             | <b>Time (minutes)</b> |  |
|                             | 170   | 10                    |  |
| <b>Cured Film Thickness</b> | Recommended:  | 55 µm                 |  |
|                             | Range:  | 40 – 100 µm           |  |

### Application Guide

#### Surface Preparation

To ensure optimum performance of Crystal™, the substrate must be completely clean and free from corrosion products, greases and polishing, plating or machinery residues. Suitable pre treatments include:

|                    |   |                                   |
|--------------------|---|-----------------------------------|
| Aluminium          | Yellow chromate or green chromate/phosphate | (refer AS3715-2002 and/or BS6496) |
| Ferrous metals     | Zinc or Iron phosphate                      | (refer BS6497 and/or AS/NZ4506)   |
| Zinc Coated Steels | Zinc or Iron phosphate                      | (refer AS/NZ4506)                 |

#### Application Procedure and Equipment

- 1a) For fluidised bed, ensure uniform fluidisation of powder. Fluidised powder should resemble “simmering liquid”. Aged or compacted powder may require pre-conditioning for several minutes to fluidise evenly.
- 1b) For box feeders, ensure probe is fully inserted in powder and operated as per manufacturer’s recommendations.
2. Apply by electrostatic spray.
3. Cure as per recommendations outlined above.
4. Test for cure of the coating by contact with a drop of Corsol PGMA (available from Orica Camel Powder Coatings) for 30 seconds. Surface should be wiped dry and immediately checked for softening. Only slight surface softening should occur.

### *Care and Maintenance*

As a general rule, cleaning of externally located powder coating surfaces must take place every six months. Where salts/pollutants are more prevalent such as seaside and industrial areas, a cleaning program should be carried out more frequently.

#### THREE STEPS TO CLEANING POWDER COATED SURFACES

1. Remove loose deposits with a wet sponge (avoid scratching the surface by dry dusting).
2. Using a soft clean cloth and a mild detergent in warm water, clean the powder coating to remove dust, salt or other deposits.
3. Always rinse after cleaning with fresh water to remove any remaining detergent.

**WARNING:** In some cases, strong solvents recommended for thinning various types of paints and also for cleaning up mastics/sealants are harmful to the extended life of the powder coated surface. These solvents should not be used for cleaning purposes. If paint splashes or sealants/mastics need to be removed then the following solvents can be used safely: Methylated Spirits, White Spirits, Ethyl Alcohol, Isopropanol.

### *Health and Safety*

The MSDS is an integral part of using this product as it contains information on the potential health effect of exposure, personal protective equipment needed and other relevant SH&E information.

For detailed information, refer to product label and the current Chemical Data Sheet available through Sales and Customer Service Offices.

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### *Precautions and Limitations*

- As a result of possible wide application variations and stoving conditions, some products and colours may show variation between Orica Camel Powder Coatings prepared samples and production applied material. Therefore, it is the applicator and/or their customer's responsibility to ensure the product conforms to their requirements.
- For optimum performance ensure recommended dry film thickness is obtained.
- Not recommended for use in highly corrosive environments such as severe marine or industrial locations.
- Not recommended for components which are exposed to constant temperatures exceeding 120°C.

## *Transport and Storage*

|                               |   |                       |     |
|-------------------------------|---|-----------------------|-----|
| <b>Sizes:</b>                 | 15 kg   | <b>Flashpoint:</b>    | N/A |
| <b>Weight:</b>                | 15 kg   | <b>UN:</b>            | N/A |
| <b>Dangerous Goods Class:</b> | N/A   | <b>Package Group:</b> | N/A |
| <b>Shipment Name:</b>         | Not dangerous goods. No special transport requirements. |                       |     |

|  |   |  |
|--|---|--|
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|--|---|--|

|                                    |                |               |
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