

|                                  |   |
|----------------------------------|---|
| <b>Product</b>                   | S0-160-9005-001<br>#EXATHERMA NERO RGG                      |
| <b>SERIES: S0</b><br>Group: 0000 | <b>EXATHERMA HP</b><br><b>SILICONE-BASED POWDER COATING</b> |

## SPECIFIC PRODUCT PROPERTIES

|                              |        |                    |                 |
|------------------------------|--------|--------------------|-----------------|
| <u>CURE TEMPERATURE:</u>     | 200    | °C                 | -               |
| <u>CURE TIME:</u>            | 30     | min                | -               |
| <u>GLOSS AT 60°:</u>         | -      | Units              | ISO 2813        |
| <u>THEORETICAL COVERAGE:</u> | 17,98  | m <sup>2</sup> /kg | Thickness 40 μm |
| <u>APPLICATION:</u>          | Corona | -                  | -               |

## GENERAL PROPERTIES OF THE SERIES

|  |  |
|--|--|
| <b>Fundamental product characteristics</b> | <p>Exatherma HP Powder Coatings, <b>Series S0 Group 0000</b>, are based on high quality raw materials conveniently chosen for their high heat stability.</p> <p>This coating has been formulated to protect steel-based items that would be exposed to service temperatures from 250 to 350° C (with peaks up to 500° C).</p> <p>The coating can be cured at 200° C for 30 minutes (object temperature) but a higher crosslinking temperature (230° C) can improve the mechanical properties of the paint and the adhesion to the substrate.</p> <p>Attention: the adhesion of the paint film to the substrate is strongly influenced by the thickness of film applied, the nature of substrate and the type of pretreatment performed. The product must be applied with a thickness not exceeding 40 microns.</p> |
|--|--|

| <b>Substrate preparation</b> | <p>Before the painting, the item should be adequately pre-treated in accordance with surface type, final use and required performances. The following table can be used as <b>starting point</b> for the pre-treatment choice.</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Substrate</th> <th>Indoor use</th> <th>Outdoor use</th> <th>Architecture</th> </tr> </thead> <tbody> <tr> <td>Aluminium</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Steel</td> <td>Sand-blasting, Zinc Phosphate</td> <td>Sand-blasting, Zinc Phosphate</td> <td>-</td> </tr> <tr> <td>Zinc coated steel</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | Substrate                     | Indoor use   | Outdoor use | Architecture | Aluminium | - | - | - | Steel | Sand-blasting, Zinc Phosphate | Sand-blasting, Zinc Phosphate | - | Zinc coated steel | - | - | - |
|------------------------------|---|-------------------------------|--------------|-------------|--------------|-----------|---|---|---|-------|-------------------------------|-------------------------------|---|-------------------|---|---|---|
| Substrate                    | Indoor use  | Outdoor use                   | Architecture |             |              |           |   |   |   |       |                               |                               |   |                   |   |   |   |
| Aluminium                    | -   | -                             | -            |             |              |           |   |   |   |       |                               |                               |   |                   |   |   |   |
| Steel                        | Sand-blasting, Zinc Phosphate   | Sand-blasting, Zinc Phosphate | -            |             |              |           |   |   |   |       |                               |                               |   |                   |   |   |   |
| Zinc coated steel            | -   | -                             | -            |             |              |           |   |   |   |       |                               |                               |   |                   |   |   |   |

|                                   |   |
|-----------------------------------|---|
| <b>Particle size distribution</b> | <p>Powder coatings <b>Series S0 Group 0000</b> are characterized by an average particle size between 30 and 40 microns. According to the customer's specific needs, specific particle size distributions can be supplied.</p> |
|-----------------------------------|---|

|                             |   |
|-----------------------------|---|
| <b>Typical applications</b> | Powder coatings <b>Series S0 Group 0000</b> is used to coat items that would be exposed to high service temperature (from 250 to 350° C with peaks up to 500° C). |
|-----------------------------|---|

|                          |  |
|--------------------------|--|
| <b>Storage stability</b> | The Powder coatings Series S0 Group 0000 must be stored in a dry place and at temperatures below 30°C. For products older than 6 months, it is recommended to check the characteristics of the powder. |
|--------------------------|--|

| General properties of the Series <sup>(1)</sup> | Method     | Test results     |
|---|------------|------------------|
| Impact Test <sup>(2)</sup>                      | ASTM D2794 | <= 1,0 Nm        |
| Adesione <sup>(2)</sup>                         | ISO 2409   | <= GT1           |
| Neutral Salt Spray <sup>(3)</sup>               | ISO 9227   | work in progress |
| Humidity Test <sup>(3)</sup>                    | DIN 50017  | work in progress |
| Heating Test <sup>(4)</sup>                     |            |                  |
| 350°C x 24 hours <sup>(5)</sup>                 | CIELab     | DE = <5          |
| 350°C x 48 hours <sup>(5)</sup>                 | CIELab     | DE = <7          |
| 350°C x 96 hours <sup>(5)</sup>                 | CIELab     | DE = <10         |
| 500°C x 1 hours <sup>(5)</sup>                  | CIELab     | DE = <10         |
| Mechanical properties after heating tests       |            |                  |
| Impact Test                                     | ASTM D2794 | < 1,0 Nm         |
| Adhesion  | ISO 2409   | <= GT1           |

<sup>(1)</sup> All tests have been carried out on black, slightly textured coating.

<sup>(2)</sup> Tests carried out on Unichim steel panels with coating thickness of about 30-40 microns.

<sup>(3)</sup> Tests carried out on Bonder 26S/60/0C panels with coating thickness of about 60 microns.

<sup>(4)</sup> Tests carried out on black, slightly textured coating applied on sand-blasted steel panels with film thickness of about 30-40 microns. The DE value may vary depending upon the paint colour.

<sup>(5)</sup> DE versus film cured at 200°C x 30 min.

**Note**

The information given in this Technical Data Sheet are based upon laboratory tests. Since product application are beyond our control, we can guarantee only the product quality itself. In the light of continuous product improvement, ST Powder Coatings reserves the right to modify without notice the content of this technical sheet.

Print date: 20/06/11

Edition: 1