# Lushan L-5R

## Polyethylene Copolymer

### Guangzhou Lushan New Materials Co., Ltd

#### Message:

Polyethylene Copolymer Adhesive for Steel Pipe Coating

Copolymer adhesive resin Lushan L-5R series is maleic anhydride grafted polyethylene which could be in granule or powder form. It was developed by Lushan with independent patent technologies and proved with excellent performance in the widely applications of pipeline projects both in China and international market.

The purpose of the adhesive is to bond the epoxy layer to the top coat.Copolymer adhesive resin Lushan L-5R series is mainly used as adhesive layer in 3 layers polyethylene system(3LPE) for steel pipe against corrosion coating system in oil and gas pipeline and high pressure water pipeline. Copolymer adhesive resin Lushan L-5R series has good properties such as high bonding strength, long-term stability, wide compatibility, easy processing, etc. Copolymer adhesive resin Lushan L-5R series is designed to meet with requirements of the following National and International standards, under the condition that appropriate industrial processing method are applied under a continuous quality control system and when used in combination with copolymer adhesive resin Lushan L-5R& polyethylene compound top coats EJ-1 and a compatible powder epoxy.

NFA 49710 CAN/CSA-Z245.21 DIN 30670S Draft ISO 21809-1

| General Information                   |                      |          |             |  |
|---------------------------------------|----------------------|----------|-------------|--|
| Features                              | Copolymer            |          |             |  |
|                                       | Good Processability  |          |             |  |
|                                       | Good Stability       |          |             |  |
|                                       |                      |          |             |  |
| Uses                                  | Adhesives            |          |             |  |
|                                       | Oil/Gas Applications |          |             |  |
|                                       | Pipe Coatings        |          |             |  |
|                                       |                      |          |             |  |
| Agency Ratings                        | CSA Z245.21          |          |             |  |
|                                       | DIN 30670            |          |             |  |
|                                       | ISO 21809-1          |          |             |  |
|                                       | NF A 49-710          |          |             |  |
|                                       |                      |          |             |  |
| Forms                                 | Granules             |          |             |  |
| Physical                              | Nominal Value        | Unit     | Test Method |  |
| Specific Gravity                      | 0.930                | g/cm³    | ASTM D792   |  |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 |                      |          |             |  |
| kg)                                   | 2.3                  | g/10 min | ASTM D1238  |  |
| Mechanical                            | Nominal Value        | Unit     | Test Method |  |
| Tensile Strength (Yield)              | 20.0                 | MPa      | ASTM D638   |  |
| Tensile Elongation (Break)            | 860                  | %        | ASTM D638   |  |
| Films                                 | Nominal Value        | Unit     | Test Method |  |
| Peel Strength                         |                      |          | ISO 21809-1 |  |
| 20°C                                  | > 16.0               | kN/m     |             |  |
| 50°C                                  | > 13.0               | kN/m     |             |  |

| 60°C                        | > 9.0         | kN/m |             |
|-----------------------------|---------------|------|-------------|
| Operating Temperature       | -40 to 60     | °C   |             |
| Thermal                     | Nominal Value | Unit | Test Method |
| Brittleness Temperature     | -70.0         | °C   | ASTM D746   |
| Vicat Softening Temperature | 104           | °C   | ASTM D1525  |
| Peak Melting Temperature    | 128           | °C   | ASTM D2117  |

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