

## K-Resin KR53

Styrene Butadiene Copolymer (SBC)

## TECHNICAL DATASHEET

### DESCRIPTION

K-Resin® KR53 makes a clear, stiff, very tough, high gloss film suitable for applications such as candy twist wrap, shrink sleeves and overwrap.

### FEATURES

- Excellent Clarity
- High Surface Gloss
- Good Toughness
- Good Heat Sealability

### APPLICATIONS

- Blown Film
- Cling Film
- Shrink Sleeve Labels
- Twist Wrap
- Lidstock and Labeling Film

| Property, Test Condition                               | Standard    | Unit                    | Values   |
|--------------------------------------------------------|-------------|-------------------------|----------|
| <b>Rheological Properties</b>                          |             |                         |          |
| Melt Volume Rate, 200 °C/5 kg                          | ISO 1133    | cm <sup>3</sup> /10 min | 10       |
| <b>Mechanical Properties</b>                           |             |                         |          |
| Izod Notched Impact Strength, 23 °C                    | ISO 180/A   | kJ/m <sup>2</sup>       | 6.5      |
| Charpy Notched Impact Strength, 23° C                  | ISO 179/1eA | kJ/m <sup>2</sup>       | 8        |
| Charpy Unnotched, 23 °C                                | ISO 179/1eU | kJ/m <sup>2</sup>       | no break |
| Tensile Stress at Yield, 23 °C                         | ISO 527     | MPa                     | 15       |
| Tensile Stress at Break, 23 °C                         | ISO 527     | MPa                     | 20       |
| Tensile Strain at Break, 23 °C                         | ISO 527     | %                       | 320      |
| Tensile Modulus                                        | ISO 527     | MPa                     | 650      |
| Flexural Strength, 23 °C                               | ISO 178     | MPa                     | 17       |
| Flexural Modulus, 23 °C                                | ISO 178     | MPa                     | 650      |
| Hardness, Shore D                                      | ISO 868     | -                       | 60       |
| <b>Thermal Properties</b>                              |             |                         |          |
| Vicat Softening Temperature VST/B/50 (50N, 50 °C/h)    | ISO 306     | °C                      | 40       |
| Vicat Softening Temperature, VST/A/120 (10N, 120 °C/h) | ISO 306     | °C                      | 70       |
| Heat Deflection Temperature A; (unannealed; 1.8 MPa)   | ISO 75      | °C                      | 46       |

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| Property, Test Condition                              | Standard    | Unit              | Values    |
|-------------------------------------------------------|-------------|-------------------|-----------|
| Heat Deflection Temperature B; (unannealed; 0.45 MPa) | ISO 75      | °C                | 56        |
| <b>Optical Properties</b>                             |             |                   |           |
| Light Transmission at 550 nm                          | ASTM D 1003 | %                 | 90        |
| Haze                                                  | ASTM D 1003 | %                 | < 2.5     |
| <b>Other Properties</b>                               |             |                   |           |
| Density                                               | ISO 1183    | kg/m <sup>3</sup> | 1010      |
| Moisture Absorption, Equilibrium 23 °C/50% RH         | ISO 62      | %                 | 0.07      |
| <b>Processing</b>                                     |             |                   |           |
| Linear Mold Shrinkage                                 | ISO 294-4   | %                 | 0.3 - 1   |
| Melt Temperature Range                                | ISO 294     | °C                | 180 - 220 |
| Mold Temperature Range                                | ISO 294     | °C                | 30 - 50   |

The nominal properties herein are typical of the product but do not reflect normal testing variance and therefore should not be used for specification purposes. Values are rounded.

Typical blown film properties with 3% SKR17 slip/antiblock, 1 mil (0.025 mm) film (2.5:1 BUR) 35 mil (0.90 mm) die gap.

[Vicat Softening Point] = Injection Molded Specimen.

[Haze] = Haze was measured using blown film containing only 1% SKR19 stabilizer, 1 mil (0.025 mm) film (2.5:1 BUR) 35 mil (0.90 mm) die gap.

### SUPPLY FORM

K-Resin® is supplied in pellet form and should be kept in its original containers in cool, dry place. Avoid direct exposure to sunlight. K-Resin® can be stored in silos at temperatures well below 45 °C.

### PRODUCT SAFETY

During processing of K-Resin® small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well ventilated workplaces - that is where five to eight air changes per hour are made. For safety information please refer to our Material Safety Data Sheet for this product.

### DISCLAIMER

The above mentioned data are accurate to the best of our knowledge. They are based upon reputable labs and industry standard testing methods. These are only typical values and actual product specification may deviate at industrial range. Therefore, no data in this technical data sheet shall constitute a warranty or representation regarding product features, fitness of the product for a specific purpose or application or its processability. INEOS Styrolution disclaims all liability in connection therewith. The customer himself is required to verify whether or not the product is suitable for the further processing or application intended and whether or not the product complies with the relevant statutory

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**TECHNICAL  
DATASHEET**

requirements. Unless explicitly and individually otherwise agreed in writing, INEOS Styrolution's sole and exclusive liability with respect to its products is set forth in INEOS Styrolution's General Terms and Conditions for Sale.