# Shinko-Lac® ABS HF-1

Acrylonitrile Butadiene Styrene

Mitsubishi Rayon America Inc.

## Message:

Shinko-Lac ABS HF-1 is a high flow, high modulus grade of ABS that is suitable for large or thin products and is effective for the remedies of sink marks, weld lines and molding cycle savings. Other features of HF-1 include an excellent balance of rigidity, strength, processability and glossiness.
Typical applications of HF-1 include audio products, copying machine trays and furniture.

| General Information | |
|---|---|
| Features | Good dimensional stability<br>Rigidity, high<br>Highlight<br>High strength<br>Impact resistance, good<br>Weldable<br>Workability, good<br>Sprayable<br>Machinable<br>Good liquidity<br>Good chemical resistance<br>Good toughness<br>Good appearance<br>Non-toxic<br>High hardness |
| Uses | Electrical/Electronic Applications<br>Furniture<br>Business equipment |
| UL File Number | E54695 |
| Appearance | Available colors<br>Natural color |
| Forms | Particle |
| Processing Method | Extrusion<br>Calendering<br>Vacuum forming<br>Injection molding |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Specific Gravity | 1.05 | g/cm³ | ASTM D792 |

| | | | |
|---|---|---|---|
| Melt Mass-Flow Rate (MFR) (200°C/5.0 kg) | 5.0 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.50 | % | ASTM D955 |
| Water Absorption (24 hr) | 0.30 | % | ASTM D570 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Rockwell Hardness (R-Scale) | 113 | | ASTM D785 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus (23°C) | 2650 | MPa | ASTM D638 |
| Tensile Strength (Yield, 23°C) | 44.1 | MPa | ASTM D638 |
| Flexural Modulus (23°C, 6.35 mm) | 2750 | MPa | ASTM D790 |
| Flexural Strength (Yield, 23°C, 6.35 mm) | 70.6 | MPa | ASTM D790 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Notched Izod Impact | | | ASTM D256 |
| -40°C, 6.35 mm | 59 | J/m | ASTM D256 |
| 0°C, 6.35 mm | 88 | J/m | ASTM D256 |
| 23°C, 6.35 mm | 110 | J/m | ASTM D256 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load (1.8 MPa, Unannealed, 12.7 mm) | 90.0 | °C | ASTM D648 |
| CLTE - Flow | 8.5E-5 | cm/cm/°C | ASTM D696 |
| Specific Heat | 1670 | J/kg/°C | ASTM C351 |
| Thermal Conductivity | 0.21 | W/m/K | ASTM C177 |
| **Injection** | **Nominal Value** | **Unit** | |
| Drying Temperature | 80.0 - 85.0 | °C | |
| Drying Time | 2.0 - 4.0 | hr | |
| Suggested Max Moisture | 0.10 | % | |
| Rear Temperature | 180 - 250 | °C | |
| Middle Temperature | 180 - 250 | °C | |
| Front Temperature | 180 - 250 | °C | |
| Mold Temperature | 40.0 - 80.0 | °C | |
| Injection Pressure | 58.8 - 108 | MPa | |

**Injection instructions**

Higher mold temperature provides a product with excellent surface finish and less residual stress.



## Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China


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