

# Polyflam HSF 36 WHI81500

## LyondellBasell Industries - General Purpose Polystyrene

### General Information

#### Product Description

High impact flame-retardant PS grade; without PBDE

#### General

|                   |                     |
|-------------------|---------------------|
| Additive          | • Flame Retardant   |
| Features          | • Flame Retardant   |
| Processing Method | • Injection Molding |

### Properties <sup>1</sup>

| Physical   | Nominal Value | Unit                   | Test Method     |
|--|---------------|------------------------|-----------------|
| Density  | 1.18          | g/cm <sup>3</sup>      | ISO 1183/A      |
| Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)               | 5.0           | cm <sup>3</sup> /10min | ISO 1133        |
| Mechanical   | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus  | 305000        | psi                    | ISO 527-1/1A/1  |
| Tensile Stress (Yield)                                   | 3630          | psi                    | ISO 527-2/1A/50 |
| Tensile Strain (Yield)                                   | 2.0           | %                      | ISO 527-2/1A/50 |
| Impact   | Nominal Value | Unit                   | Test Method     |
| Charpy Notched Impact Strength                           |               |                        | ISO 179/1eA     |
| -22°F  | 0.95          | ft·lb/in <sup>2</sup>  |                 |
| 73°F   | 4.8           | ft·lb/in <sup>2</sup>  |                 |
| Charpy Unnotched Impact Strength                         |               |                        | ISO 179/1eU     |
| -22°F  | 19            | ft·lb/in <sup>2</sup>  |                 |
| 73°F   | 38            | ft·lb/in <sup>2</sup>  |                 |
| Thermal  | Nominal Value | Unit                   | Test Method     |
| Deflection Temperature Under Load (66 psi, Unannealed)   | 187           | °F                     | ISO 75-2/Bf     |
| Deflection Temperature Under Load<br>264 psi, Unannealed | 167           | °F                     | ISO 75-2/Af     |
| Vicat Softening Temperature                              |               |                        |                 |
| --   | 187           | °F                     | ISO 306/B50     |
| --   | 212           | °F                     | ISO 306/A50     |
| Ball Pressure Test (176°F)                               | Pass          |                        | IEC 60695-10-2  |
| RTI Elec   |               |                        | UL 746B         |
| 0.06 in  | 122           | °F                     |                 |
| 0.12 in  | 122           | °F                     |                 |
| RTI Imp  |               |                        | UL 746B         |
| 0.06 in  | 122           | °F                     |                 |
| 0.12 in  | 122           | °F                     |                 |
| RTI Str  |               |                        | UL 746B         |
| 0.06 in  | 122           | °F                     |                 |
| 0.12 in  | 122           | °F                     |                 |
| Electrical   | Nominal Value | Unit                   | Test Method     |
| Surface Resistivity                                      | > 1.0E+15     | ohms                   | IEC 60093       |
| Volume Resistivity                                       | > 1.0E+13     | ohms·m                 | IEC 62631-3-1   |

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| <b>Electrical</b>              | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>   |
|--------------------------------|----------------------|-------------|----------------------|
| Comparative Tracking Index     | 350                  | V           | IEC 60112            |
| <b>Flammability</b>            | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>   |
| Burning Rate <sup>2</sup>      |                      |             |                      |
| 0.0787 in                      | 0.0                  | in/min      | FMVSS 302            |
| 0.0787 in                      | 0.0                  | in/min      | ISO 3795             |
| Flame Rating                   |                      |             | UL 94                |
| 0.06 in                        | V-0                  |             |                      |
| 0.12 in                        | V-0                  |             |                      |
| 0.15 in                        | V-0                  |             |                      |
| Flammability Classification    |                      |             | IEC 60695-11-10, -20 |
| 0.06 in                        | V-0                  |             |                      |
| 0.12 in                        | V-0                  |             |                      |
| 0.15 in                        | V-0                  |             |                      |
| 0.08 in                        | 5VB                  |             |                      |
| Glow Wire Flammability Index   |                      |             | IEC 60695-2-12       |
| 0.06 in                        | 1760                 | °F          |                      |
| 0.12 in                        | 1760                 | °F          |                      |
| Glow Wire Ignition Temperature |                      |             | IEC 60695-2-13       |
| 0.06 in                        | 1200                 | °F          |                      |
| 0.12 in                        | 1160                 | °F          |                      |
| Oxygen Index                   | 26                   | %           | ISO 4589-2           |

**Processing Information**

| <b>Injection</b>       | <b>Nominal Value</b> | <b>Unit</b> |
|------------------------|----------------------|-------------|
| Drying Temperature     | 158 to 176           | °F          |
| Drying Time            | 2.0 to 4.0           | hr          |
| Processing (Melt) Temp | 374 to 428           | °F          |
| Mold Temperature       | 86 to 140            | °F          |
| Injection Rate         | Slow-Moderate        |             |
| Back Pressure          | 725 to 1450          | psi         |
| Screw Speed            | < 709                | in/min      |

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Self-Extinguishing