

## VALOX™ FR RESINS V4860HR

REGION ASIA

### DESCRIPTION

VALOX V4860HR is a 30% glass filled, impact modified, hydrolytically stable flame retardant Polybutylene Terephthalate (PBT) injection moldable grade. It has excellent chemical resistance and a UL94V0@0.80 flame rating. This is a good candidate for a variety of applications needing a hydrostable FR PBT solution.

### TYPICAL PROPERTY VALUES

Revision 20260509

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS   |
|----------------------------------------------|----------------|-------|----------------|
| <b>MECHANICAL</b>                            |                |       |                |
| Tensile Stress, yld, Type I, 5 mm/min        | 116            | MPa   | ASTM D638      |
| Tensile Stress, brk, Type I, 5 mm/min        | 114            | MPa   | ASTM D638      |
| Tensile Strain, yld, Type I, 5 mm/min        | 2.2            | %     | ASTM D638      |
| Tensile Strain, brk, Type I, 5 mm/min        | 2.3            | %     | ASTM D638      |
| Tensile Modulus, 5 mm/min                    | 9750           | MPa   | ASTM D638      |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 174            | MPa   | ASTM D790      |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 6740           | MPa   | ASTM D790      |
| Tensile Stress, yield, 5 mm/min              | 111            | MPa   | ISO 527        |
| Tensile Stress, break, 5 mm/min              | 110            | MPa   | ISO 527        |
| Tensile Strain, yield, 5 mm/min              | 2.1            | %     | ISO 527        |
| Tensile Strain, break, 5 mm/min              | 2.1            | %     | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 9440           | MPa   | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 183            | MPa   | ISO 178        |
| Flexural Stress, break, 2 mm/min             | 182            | MPa   | ISO 178        |
| Flexural Strain, break, 2 mm/min             | 2.9            | %     | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 7870           | MPa   | ISO 178        |
| <b>IMPACT</b>                                |                |       |                |
| Izod Impact, notched, 23°C                   | 90             | J/m   | ASTM D256      |
| Izod Impact, notched, -30°C                  | 74             | J/m   | ASTM D256      |
| Instrumented Dart Impact Total Energy, 23°C  | 13             | J     | ASTM D3763     |
| Izod Impact, notched 80°10'4 +23°C           | 10             | kJ/m² | ISO 180/1A     |
| Izod Impact, notched 80°10'4 -30°C           | 8              | kJ/m² | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80°10'4 sp=62mm   | 10             | kJ/m² | ISO 179/1eA    |
| <b>THERMAL</b>                               |                |       |                |
| Vicat Softening Temp, Rate B/50              | 176            | °C    | ASTM D1525     |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 197            | °C    | ASTM D648      |
| HDT, 0.45 MPa, 6.4 mm, unannealed            | 221            | °C    | ASTM D648      |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 205            | °C    | ASTM D648      |
| CTE, -40°C to 95°C, flow                     | 2.35E-05       | 1/°C  | ASTM E831      |
| CTE, -40°C to 95°C, xflow                    | 1.14E-04       | 1/°C  | ASTM E831      |
| CTE, 23°C to 80°C, flow                      | 2.28E-05       | 1/°C  | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                     | 1.19E-04       | 1/°C  | ISO 11359-2    |
| Ball Pressure Test, approximate maximum      | 125            | °C    | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50              | 176            | °C    | ISO 306        |

© 2026 Copyright by SABIC. All rights reserved

CHEMISTRY THAT MATTERS™



| PROPERTIES                             | TYPICAL VALUES                 | UNITS      | TEST METHODS      |
|----------------------------------------|--------------------------------|------------|-------------------|
| Vicat Softening Temp, Rate B/120       | 175                            | °C         | ISO 306           |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm  | 188                            | °C         | ISO 75/Af         |
| <b>PHYSICAL</b>                        |                                |            |                   |
| Specific Gravity                       | 1.64                           | -          | ASTM D792         |
| Mold Shrinkage, flow, 3.2 mm           | 0.18 – 0.21                    | %          | SABIC method      |
| Mold Shrinkage, xflow, 3.2 mm          | 0.75 – 0.94                    | %          | SABIC method      |
| Melt Flow Rate, 250°C/5.0 kgf          | 17.8                           | g/10 min   | ASTM D1238        |
| Density                                | 1.64                           | g/cm³      | ISO 1183          |
| Water Absorption, (23°C/saturated)     | 0.19                           | %          | ISO 62-1          |
| Moisture Absorption (23°C / 50% RH)    | 0.06                           | %          | ISO 62            |
| Melt Volume Rate, MVR at 250°C/5.0 kg  | 12                             | cm³/10 min | ISO 1133          |
| <b>FLAME CHARACTERISTICS</b>           |                                |            |                   |
| UL Yellow Card Link                    | <a href="#">E207780-228381</a> | -          | -                 |
| UL Compliant, 94V-0 Flame Class Rating | 0.8                            | mm         | UL 94 by SABIC-IP |
| <b>INJECTION MOLDING</b>               |                                |            |                   |
| Drying Temperature                     | 120                            | °C         |                   |
| Drying Time                            | 3 – 4                          | Hrs        |                   |
| Drying Time (Cumulative)               | 12                             | Hrs        |                   |
| Maximum Moisture Content               | 0.02                           | %          |                   |
| Melt Temperature                       | 230 – 260                      | °C         |                   |
| Nozzle Temperature                     | 240 – 260                      | °C         |                   |
| Front - Zone 3 Temperature             | 240 – 260                      | °C         |                   |
| Middle - Zone 2 Temperature            | 230 – 250                      | °C         |                   |
| Rear - Zone 1 Temperature              | 220 – 240                      | °C         |                   |
| Mold Temperature                       | 60 – 120                       | °C         |                   |
| Back Pressure                          | 0.3 – 0.7                      | MPa        |                   |
| Screw Speed                            | 20 – 100                       | rpm        |                   |
| Shot to Cylinder Size                  | 30 – 70                        | %          |                   |
| Vent Depth                             | 0.025 – 0.038                  | mm         |                   |

#### DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.

