



# VALOX™ RESIN 830

REGION AMERICAS

## DESCRIPTION

30% GR PBT + PET, excellent surface finish. Typical applications are hot air gun housing assemblies, industrial glue guns, appliance housings and handles.

## TYPICAL PROPERTY VALUES

| PROPERTIES                                   | TYPICAL VALUES | UNITS              | TEST METHODS |
|----------------------------------------------|----------------|--------------------|--------------|
| <b>MECHANICAL</b>                            |                |                    |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 103            | MPa                | ASTM D638    |
| Tensile Stress, brk, Type I, 5 mm/min        | 106            | MPa                | ASTM D638    |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 172            | MPa                | ASTM D790    |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 7000           | MPa                | ASTM D790    |
| Hardness, Rockwell R                         | 119            | -                  | ASTM D785    |
| <b>IMPACT</b>                                |                |                    |              |
| Izod Impact, unnotched, 23°C                 | 640            | J/m                | ASTM D4812   |
| Izod Impact, notched, 23°C                   | 85             | J/m                | ASTM D256    |
| <b>THERMAL</b>                               |                |                    |              |
| HDT, 0.45 MPa, 6.4 mm, unannealed            | 221            | °C                 | ASTM D648    |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 193            | °C                 | ASTM D648    |
| CTE, -40°C to 40°C, flow                     | 2.7E-05        | 1/°C               | ASTM E831    |
| CTE, 60°C to 138°C, flow                     | 2.52E-05       | 1/°C               | ASTM E831    |
| Relative Temp Index, Elec                    | 120            | °C                 | UL 746B      |
| Relative Temp Index, Mech w/impact           | 110            | °C                 | UL 746B      |
| Relative Temp Index, Mech w/o impact         | 120            | °C                 | UL 746B      |
| <b>PHYSICAL</b>                              |                |                    |              |
| Specific Gravity                             | 1.54           | -                  | ASTM D792    |
| Specific Volume                              | 0.67           | cm <sup>3</sup> /g | ASTM D792    |
| Water Absorption, (23°C/24hrs)               | 0.06           | %                  | ASTM D570    |
| Mold Shrinkage, flow, 1.5-3.2 mm             | 0.3 – 0.5      | %                  | SABIC method |
| Mold Shrinkage, flow, 3.2-4.6 mm             | 0.5 – 0.8      | %                  | SABIC method |
| Mold Shrinkage, xflow, 1.5-3.2 mm            | 0.4 – 0.6      | %                  | SABIC method |
| Mold Shrinkage, xflow, 3.2-4.6 mm            | 0.6 – 0.9      | %                  | SABIC method |
| <b>ELECTRICAL</b>                            |                |                    |              |
| Volume Resistivity                           | 4.E+16         | Ω.cm               | ASTM D257    |
| Dielectric Strength, in air, 3.2 mm          | 20.8           | kV/mm              | ASTM D149    |
| Dielectric Strength, in oil, 1.6 mm          | 24.8           | kV/mm              | ASTM D149    |
| Relative Permittivity, 100 Hz                | 3.6            | -                  | ASTM D150    |
| Relative Permittivity, 1 MHz                 | 3.5            | -                  | ASTM D150    |
| Dissipation Factor, 100 Hz                   | 0.002          | -                  | ASTM D150    |
| Dissipation Factor, 1 MHz                    | 0.02           | -                  | ASTM D150    |
| Arc Resistance, Tungsten {PLC}               | 6              | PLC Code           | ASTM D495    |
| Hot Wire Ignition {PLC}                      | 0              | PLC Code           | UL 746A      |
| High Voltage Arc Track Rate {PLC}            | 2              | PLC Code           | UL 746A      |

| PROPERTIES                             | TYPICAL VALUES        | UNITS    | TEST METHODS |
|----------------------------------------|-----------------------|----------|--------------|
| High Ampere Arc Ign, surface {PLC}     | 3                     | PLC Code | UL 746A      |
| Comparative Tracking Index (UL) {PLC}  | 2                     | PLC Code | UL 746A      |
| FLAME CHARACTERISTICS                  |                       |          |              |
| UL Yellow Card Link                    | <u>E121562-220851</u> | -        | -            |
| UL Recognized, 94HB Flame Class Rating | 1.47                  | mm       | UL 94        |
| INJECTION MOLDING                      |                       |          |              |
| Drying Temperature                     | 120                   | °C       |              |
| Drying Time                            | 3 – 4                 | Hrs      |              |
| Drying Time (Cumulative)               | 12                    | Hrs      |              |
| Maximum Moisture Content               | 0.02                  | %        |              |
| Melt Temperature                       | 250 – 265             | °C       |              |
| Nozzle Temperature                     | 245 – 260             | °C       |              |
| Front - Zone 3 Temperature             | 250 – 265             | °C       |              |
| Middle - Zone 2 Temperature            | 245 – 260             | °C       |              |
| Rear - Zone 1 Temperature              | 240 – 255             | °C       |              |
| Mold Temperature                       | 65 – 90               | °C       |              |
| Back Pressure                          | 0.3 – 0.7             | MPa      |              |
| Screw Speed                            | 50 – 80               | rpm      |              |
| Shot to Cylinder Size                  | 40 – 80               | %        |              |
| Vent Depth                             | 0.025 – 0.038         | mm       |              |