

**GPO-1**

**HST-II**

**12/8/2009**

UL, Inc. has granted HST-II the highest thermal recognition ever achieved by any glass polyester laminate (U.L. File No. E81893). HST-II has a 220° C/210° C rating for 1/8" thick and heavier, and a 210° C/210° C rating for 1/32" thick up to 1/8" thick. HST-II is a high temperature polyester laminate that exhibits excellent retention of electrical and mechanical properties at elevated temperatures. Applications for HST-II can be found in high voltage transformers, D.C. motors and elsewhere when materials with high thermal indices are required. Available thicknesses - .031" - 2.00". Standard color - Brown.

| Physical  | Test Method | Unit             | Result                 |
|---|-------------|------------------|------------------------|
| Barcol Hardness   | Barcol      | Scale            | 52                     |
| Specific Gravity  | D-792       |                  | 1.62                   |
| Density, <i>Lbs/In<sup>3</sup></i>                            |             | Lbs/Cu. In.      | 0.050                  |
| Water Absorption, %   | D-229       | %                | 0.03                   |
| UL Flammability   | UL94        | Class            | HB                     |
| Flame Resistance, <i>Seconds</i>                              |             |                  |                        |
| Ignition Time   | D-229       | Seconds          | 77                     |
| Burning Time  | D-229       | Seconds          | 256                    |
| Coefficient of Thermal Expansion                              | D-696       | In./In./°C       | 2.9 x 10 <sup>-5</sup> |
| Temperature Class*  | --          | Degrees C        | 220                    |
| <b>Mechanical</b>   |             |                  |                        |
| Tensile Strength, <i>PSI</i>                                  | D-638       | PSI              | 13,000                 |
| Flexural Strength, <i>PSI</i>                                 | D-790       | PSI              | 25,000                 |
| Modulus of Elasticity in Flexure, <i>PSI</i>                  | D-790       | PSI              | 1.70 x 10 <sup>6</sup> |
| Compressive Strength, <i>PSI</i>                              | D-695       | PSI              | 33,000                 |
| Bond Strength, 1/2" Thickness, <i>PSI</i>                     | D-229       | PSI              | 1,400                  |
| Shear Strength, <i>PSI</i>                                    | D-732       | PSI              | 14,000                 |
| Impact Strength, Izod Edgewise                                | D-256       | Ft lbs/In. Notch | 10.1                   |
| <b>Electrical</b>   |             |                  |                        |
| Dielectric Strength, ⊥, Short Time In Oil 1/16", <i>VPM</i>   | D-149       | VPM              | 400                    |
| Dielectric Strength, Parallel, Step-By-Step In Oil, <i>KV</i> | D-149       | KV               | 62.0                   |
| Arc Resistance, <i>Seconds</i>                                | D-495       | Seconds          | 150                    |
| Dielectric Constant @60HZ                                     | D-150       |                  | 4.20                   |
| Dissipation Factor @ 60 Hz                                    | D-150       |                  | 0.01                   |

Unless otherwise indicated, all properties published are based on test performed on standard ASTM test samples and according to ASTM test methods. Values shown are for test samples made from production materials and they are believed to be conservative. No warranty is to be construed, however, in fabricated or molded form, parts may vary considerably from this standard test data. Where specific or unusual applications arise, test should be made on actual parts, and test procedures agreed upon between Haysite Reinforced Plastics and the customer.