

# Resiten® 113

Phenolic

ITEN INDUSTRIES

## Message:

Phenolic materials were first used as insulation in the electrical industry with the invention of Bakelite about one hundred years ago. Since that time, the chemistry, additives and processing have been highly refined. Today, Phenolic materials are found in all facets of our daily lives. They insulate our electric light bulbs and beautify the counter tops in our kitchens. Handles on our pots and pans withstand high temperatures. Massive mounting bases support high voltage switching equipment.

Iten Industries processes Phenolic resin into a wide range of laminates that find their way into market areas from high voltage electrical, low voltage electrical to laser engraved signage. The laminate sheets are processed by the compression molding method. A wide range of reinforcing substrates is used. A full spectrum of sizes and thicknesses is available.

PRODUCTS: ANSI / NEMA

PAPER PHENOLIC: X(P) / XX(P) / XXX(P) / XPC

CANVAS PHENOLIC: C / CE

LINEN PHENOLIC: L / LE

GLASS PHENOLIC: G3

| General Information              |                            |       |             |
|----------------------------------|----------------------------|-------|-------------|
| Features                         | Good Electrical Properties |       |             |
| Uses                             | Laminates                  |       |             |
|                                  | Sheet                      |       |             |
| Agency Ratings                   | EC 1907/2006 (REACH)       |       |             |
| RoHS Compliance                  | RoHS Compliant             |       |             |
| Appearance                       | Colors Available           |       |             |
| Forms                            | Sheet                      |       |             |
| Processing Method                | Compression Molding        |       |             |
| Mechanical                       | Nominal Value              | Unit  |             |
| Tensile Strength <sup>1</sup>    |                            |       |             |
| Across Flow : Yield              | 115                        | MPa   |             |
| Flow : Yield                     | 172                        | MPa   |             |
| Flexural Strength                |                            |       |             |
| -- <sup>2</sup>                  | 160                        | MPa   |             |
| -- <sup>3</sup>                  | 202                        | MPa   |             |
| Compressive Strength             |                            |       |             |
| -- <sup>4</sup>                  | 107                        | MPa   |             |
| -- <sup>5</sup>                  | 118                        | MPa   |             |
| Impact                           | Nominal Value              | Unit  |             |
| Notched Izod Impact <sup>6</sup> |                            |       |             |
| Across Flow                      | 26                         | J/m   |             |
| Flow                             | 30                         | J/m   |             |
| Electrical                       | Nominal Value              | Unit  | Test Method |
| Dielectric Strength (In Oil)     | 6.7                        | kV/mm | ASTM D149   |
| Relative Permittivity            |                            |       | ASTM D150   |

|                      |       |           |
|----------------------|-------|-----------|
| 1 MHz <sup>7</sup>   | 6.83  |           |
| 1 MHz <sup>8</sup>   | 6.13  |           |
| Dissipation Factor   |       | ASTM D150 |
| 1 MHz <sup>9</sup>   | 0.49  |           |
| 1 MHz <sup>10</sup>  | 0.055 |           |
| Arc Resistance       |       | ASTM D495 |
| -- <sup>11</sup>     | 9.00  | sec       |
| -- <sup>12</sup>     | 32.0  | sec       |
| Dielectric Breakdown |       | ASTM D149 |
| -- <sup>13</sup>     | 4000  | V         |
| -- <sup>14</sup>     | 29100 | V         |

#### NOTE

1. Condition A
2. Across Flow, Condition A
3. Flow, Condition A
4. Across Flow, Condition A
5. Flow, Condition A
6. E48/50
7. D24/23
8. Condition A
9. D24/23
10. Condition A
11. D48/50
12. Condition A
13. D48/50
14. Condition A

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