

# TABLE OF PROPERTIES

## NON-METALLIC MATERIALS-CATALOG PRODUCTS

|   | Acetal  | Vlucanized Fibre | Glass Epoxy G10 | Glass Melamine G9 | Glass Silicone G7 | Kapton | PCTFE         | Mica       |
|---|---------|------------------|-----------------|-------------------|-------------------|--------|---------------|------------|
| Dielectric Strength v/mil (short time)    | 400-465 | 150-250          | 400             | 350               | 350-400           | 7000   | 530           | 3000-6000  |
| Dielectric Constant @ 1000 kc             | 3.7     | 4-7              | 5.4             | 7.5               | 4.2               | 3.5    | 2.4           | 6.5-8.7    |
| Power Factor @ 1000 kc                    | —       | .03-.08          | 0.015           | 0.08              | —                 | —      | —             | 0.0005     |
| Tensile Strength, psi                     | 10,000  | 6,000-12,000     | 35,000          | 37,000            | 18,000-23,000     | 25,000 | 4600-5700     | —          |
| Shear Strength, psi                       | —       | 11,000-15,000    | 19,000          | —                 | 17,000            | —      | 5800          | —          |
| Compressive Strength, psi                 | 18,000  | 20,000-30,000    | 55,000 (Flat)   | 65,000 (Flat)     | 245,000           | —      | 32,000-80,000 | —          |
| Elongation, %                             | 30      | —                | —               | —                 | —                 | 70     | 150           | —          |
| Flexural Strength, psi                    | 14,000  | 12,000-20,000    | 80,000 (Flat)   | 65,000 (Flat)     | 20,000-23,000     | —      | 8200          | —          |
| Modulus of Elasticity, psi                | 350,000 | 750,000          | 2,200,000       | 2,300,000         | 1,200,000         | —      | 180,000       | 25,000,000 |
| Hardness                                  | R118    | R60-100          | M 100           | M 120             | M 100             | —      | R113          | 80-150 SDH |
| Specific Gravity                          | 1.42    | 1.0-1.5          | 1.8             | 1.9               | 1.7               | 1.42   | 2.1           | 2.6-3.2    |
| Thermal Conductivity btu/hr/sq. ft./°F/ft | —       | 0.25             | 0.17            | 0.29              | 0.17              | 0.09   | 0.15          | —          |
| Specific Heat, btu/lb/°F                  | —       | 0.37             | —               | 0.26              | —                 | 0.26   | 0.22          | 0.207      |
| Resistance to Continuous Heat °F          | 212     | 212              | 280             | 300               | 460               | 750    | 390           | 1050       |
| Water Absorbion %                         | 0.12    | 15-25            | 0.15            | 0.2               | .2-.3             | 2.9    | 0.005         | 4.5        |

|   | Mylar  | Neoprene  | Nylon*   |                  | Phenolic      |               |               | Polyethylene (High Density) | PVC       | Santoprene | PTFE      |
|---|--------|-----------|----------|------------------|---------------|---------------|---------------|-----------------------------|-----------|------------|-----------|
|   |        |           | Pure (1) | Moly-Sulfide (M) | LE            | CE            | XXXP          |                             |           |            |           |
| Dielectric Strength v/mil (short time)    | 4000   | —         | 385      | 356              | 225           | 225           | 325           | 460                         | 425       | —          | 480       |
| Dielectric Constant @ 1000 kc             | 3      | —         | 3.4      | —                | —             | —             | 4.30 Avg.     | 2.3                         | 3.4       | —          | 2         |
| Power Factor @ 1000 kc                    | 0.016  | —         | 0.04     | —                | 5.2           | 5.5           | 3.2           | <.0005                      | —         | —          | <.0005    |
| Tensile Strength, psi                     | 20,000 | 1500      | 10,500   | 12,300           | 10,000-14,000 | 9,000-12,000  | 13,500        | 3100-5500                   | 5900-7500 | 640        | 800       |
| Shear Strength, psi                       | —      | —         | 9,600    | —                | 11,000-15,000 | 11,000-15,000 | 7,000         | —                           | —         | —          | —         |
| Compressive Strength, psi                 | —      | —         | 13,000   | —                | 37,000 (Flat) | 37,000 (Flat) | 36,000 (Flat) | 2500                        | 10,000    | —          | 1700      |
| Elongation, %                             | 75     | 300       | 90       | 5-150            | —             | —             | —             | 15-100                      | 2.0-4.0   | 330        | 800       |
| Flexural Strength, psi                    | —      | —         | 13,800   | 18,000           | 20,000 (Flat) | 16,000 (Flat) | 19,000 (Flat) | 4000                        | 13,000    | —          | —         |
| Modulus of Elasticity, psi                | —      | —         | 400,000  | 575,000          | 1,000,000     | 1,000,000     | 1,000,000     | 150,000                     | 600,000   | —          | 58,000    |
| Hardness                                  | —      | 50-70 SHA | R115     | R115             | M 113         | M 108         | M 110         | 60-70 SDH                   | 65-85 SDH | 55 SDH     | 50-70 SDH |
| Specific Gravity                          | 1.38   | 1.23      | 1.14     | 1.16             | 1.33          | 1.36          | 1.35          | .941-.965                   | 1.46      | 0.99       | 2.1-2.3   |
| Thermal Conductivity btu/hr/sq. ft./°F/ft | 0.09   | —         | 0.14     | —                | 0.17          | 0.17          | 0.17          | —                           | —         | —          | 0.15      |
| Specific Heat, btu/lb/°F                  | —      | —         | 0.4      | —                | 0.4           | 0.4           | —             | —                           | —         | —          | 0.25      |
| Resistance to Continuous Heat °F          | 300    | 175       | 300      | 400              | 250           | 250           | 250           | 250                         | 160       | 212        | 500       |
| Water Absorbion %                         | <.5    | —         | 1.5      | 1.5              | 1.3           | 1.6           | 0.8           | <.015                       | .07-4     | —          | 0.005     |

*\*Nylon may shrink or expand due to temperature and humidity*

This data has been obtained from numerous sources. While it is believed to be correct, we cannot assume responsibility for its use.

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