

COMPARATIVE PROPERTIES

| | Abbreviation | Density (g/ml) | Thermal Expansion Coefficient (m/m-°C x 10-6) | Flexural Strength (MPa) | Flexural Modulus (GPa) | Flexural Elongation at Break (%) | Tensile Strength (MPa) | Tensile Modulus (GPa) | Tensile Elongation at Break (%) | HDT 66 psi (°C) | HDT 264 psi (°C) |
|-----------------------------------|--------------|----------------|---|-------------------------|------------------------|----------------------------------|------------------------|-----------------------|---------------------------------|-----------------|------------------|
| MIR | | | | | | | | | | | |
| MIR-1000-95 | | 1.05 | 40 | 100 | 2.70 | >10 | - | - | - | - | 95 |
| MIR-1000-85 | | 1.05 | 43 | 95 | 1.90 | >10 | - | - | - | - | 85 |
| MIR-1000-75 | | 1.05 | 52 | 90 | 1.80 | >10 | - | - | - | - | 75 |
| MIR-100 | | 1.22 | - | 120 | 4.00 | 4.00 | 68 | 3.00 | - | - | 65 |
| MIR-110 | | 0.91 | - | 50 | 4.10 | 2.50 | 35 | 4.40 | - | - | 65 |
| MIR-120 | | 1.22 | - | 110 | 3.50 | 4.50 | 70 | 4.30 | - | - | 82 |
| MIR-150 | | 1.22 | - | 120 | 4.00 | 4.00 | 68 | 3.00 | - | - | 65 |
| MIR-170 | | 1.19 | - | 140 | 3.00 | 5.40 | 70 | 5.30 | - | - | 100 |
| MIR-200 | | 1.38 | - | - | - | - | - | - | - | - | 126 |
| MIR-740 | | 1.19 | - | 140 | 3.00 | 5.40 | 70 | 5.30 | - | - | 100 |
| MIR-745 | | 1.22 | - | 140 | 3.00 | 5.40 | 70 | 5.30 | - | - | 115 |
| MIR-750 | | 1.29 | - | 140 | 3.00 | 5.40 | 70 | 5.30 | - | - | 150 |
| Commodity Thermoplastics | | | | | | | | | | | |
| Acrylonitrile butadiene styrene | ABS | 1.05 | 90 | 70 | 2.10 | - | 45 | 2.45 | 25 | - | 102 |
| Low Density Polyethylene | LDPE | 0.92 | 160 | 14 | 0.21 | - | 17 | 0.29 | 100 | 48 | 46 |
| High Density Polyethylene | HDPE | 0.95 | 126 | 40 | 1.38 | - | 31 | 1.86 | 400 | 76 | 80 |
| Polypropylene | PP | 0.91 | 90 | 49 | 1.52 | - | 37 | 1.36 | 12 | 99 | 52 |
| Polystyrene | PS | 1.05 | 60 | 42 | 2.14 | - | 55 | 3.20 | 47 | - | 95 |
| Polyvinyl Chloride | PVC | 1.44 | 75 | 91 | 3.32 | - | 47 | 3.32 | - | - | 80 |
| Engineering Thermoplastics | | | | | | | | | | | |
| Polyamide | Nylon 6 | 1.13 | 66 | 91 | 3.17 | - | 60 | 2.95 | 20 | - | 93 |
| Nylon 66 | Nylon 66 | 1.14 | 22 | 82 | 2.83 | - | 85 | 2.93 | 50 | - | 93 |
| Polyethylene terephthalate | PET | 1.35 | 70 | 105 | 2.76 | - | 61 | 1.35 | 20 | - | 116 |
| Polycarbonate | PC | 1.20 | 66 | 95 | 2.38 | - | 68 | 2.30 | 60 | - | 132 |
| Polyether ether ketone | PEEK | 1.32 | 47 | 172 | 4.07 | - | 100 | 3.60 | 20 | - | 160 |
| Polymethylmethacrylate | PMMA | 1.19 | 65 | 103 | - | - | 61 | 2.77 | 2 | - | 73 |
| Thermosets | | | | | | | | | | | |
| Epoxy | EP | 1.15 | 60 | 41 | 4.90 | - | 41 | 10.30 | 0.5 | - | 54 |
| Polyurethane | PU | 1.40 | 165 | 31 | 0.88 | - | 21 | 0.96 | 5 | - | 50 |
| Polyester | UP | 1.22 | 30 | 93 | 4.34 | - | 60 | 4.10 | 2 | - | 69 |
| Metals | | | | | | | | | | | |
| Aluminum | Al | 2.70 | 22 | 310 | 69.00 | 12.00 | 310 | 69.00 | 12 | 588 melt point | |