



## Freeman 1080 Polyurethane Elastomer

### Description

Freeman 1080 is a brilliant white urethane elastomer that is well suited for duplicating and creating prototypes of rigid injection molded parts. This material features a 1:1 mix ratio by volume and a very low mixed viscosity for excellent pouring results in thin-wall sections. Freeman 1080 may be cast up to 1/2" thick. This material is moisture sensitive. Degassing material is highly recommended.

### Physical Properties

|  |                       |
|--|-----------------------|
| Color (when mixed)   | Brilliant White       |
| Mix Ratio (by weight)                                      | 115:100               |
| Mix Ratio (by volume)                                      | 1:1                   |
| Viscosity (cps, mixed)                                     | 150                   |
| Gel Time (minutes @ 77°F.)                                 | 20                    |
| Demold Time (hours)  | 2-4                   |
| Hardness (Shore D) (ASTM 2240)                             | 80                    |
| Specific Gravity, Mixed                                    | 1.12                  |
| Volumetric Yield (cu. in./ lb.) (ASTM D-792)               | 24.7                  |
| Compressive Strength (psi) (ASTM D-695)                    | 8,300                 |
| Flexural Strength (psi) (ASTM D-790)                       | 9,500                 |
| Flexural Modulus (psi) (ASTM D-790)                        | 288,000               |
| Tensile Strength (psi) (ASTM D-638)                        | 6,650                 |
| Izod Impact Strength (ft-lbs./in) (ASTM D-256)             | 0.31                  |
| Deflection Temperature @ 66 psi (°F) (ASTM D-648)          | 134                   |
| Coefficient of Thermal Expansion (in/in/°F) (ASTM D696-98) | $4.70 \times 10^{-5}$ |
| Linear Shrinkage (in/in)* (ASTM D-2566)                    | 0.003                 |

\*Actual shrinkage dependent upon mass

### Ordering Information

| Item Number | Description       | Size     | Net Wt. Lbs. |
|-------------|-------------------|----------|--------------|
| 055419      | Freeman 1080 Slow | Quart    | 2            |
| 055412      | Freeman 1080 Slow | Gallon   | 16           |
| 054411      | Freeman 1080 Slow | 5 Gallon | 80           |

Physical and mechanical properties of tooling plastics herein reported are typical after a full cure of seven (7) days at room temperature or equivalent. Designated mix ratios must be adhered to for desired results. The user shall determine the suitability of this product for their application and assumes all risks and liabilities associated with the use of this product. The exclusive remedy for all proven claims is replacement of our materials only and in no event shall Freeman Mfg. & Supply Co. be liable for special, incidental, or consequential claims.

READ SAFETY DATA SHEETS AND PRODUCT LABELS BEFORE USING PRODUCT