



Chemical Resistance Properties

|                               | Tygon S3™ B-44-J | Tygon S3™ B-44-K | Tygon S3™ B-44-LX IB | Tygon S3™ E-3603 | Tygon S3™ E-LR | Tygon 2375 | Tygon® A-60-F | Tygon® A-60-F IB | Tygon® B-44-FF | Tygon® E-1000 | Tygon® E-70-V-CE | Tygon® SPT-3330 IB | Tygon® XL-60 | Tygon S3™ M-34-R | Tygon S3™ A24, A24+C | Tygon® II |
|-------------------------------|------------------|------------------|----------------------|------------------|----------------|------------|---------------|------------------|----------------|---------------|------------------|--------------------|--------------|------------------|----------------------|-----------|
| Calcium Nitrate, 55% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Calcium Sulfate               |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Calcium Sulfate, 1% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbon Dioxide, Wet/Dry       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbon Dioxide, Dry           |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbon Monoxide               |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbon Tetrachloride          |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbonic Acid                 |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Carbon Oxide                  |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cellulosic Acetate            |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chlorine, Dry Gas             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chlorine, Wet Gas             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chloroacetic Acid, 50% in w   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chlorobenzene, Mono, Di, Tri  |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chloroform                    |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chloroauric Acid              |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chronic Acid, 102.0% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Chronic Acid, 102.0% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Citric Acid, 10-20% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Coconut Oil                   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Corn Syrup                    |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Concentrated Oil              |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cresylic Acid                 |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cupric Chloride, 40% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cupric Nitrate, 70% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cuprous Sulfate, 1% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cyclohexane                   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Cyclohexanone                 |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Detergent Solutions           |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Dibutyl Phthalate             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Diethylene Glycol             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Diethylene Glycol             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Dimethylformamide             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Dimethylsulfoxide             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Dioxane                       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ether                         |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethyl Acetate                 |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethyl Alcohol (Ethanol)       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethyl Benzene                 |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethyl Chloride                |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethyl Ether                   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethylene Bromide              |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethylene Chloride             |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethylene Dichloride           |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethylene Glycol               |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ethylene Oxide                |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Fatty Acids                   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Nitrate, 43% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Nitrate, 60% in w     |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Sulfate, 5% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Chloride, 40% in w    |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Sulfate, 5% in w      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Ferrous Chloride, 40% in w    |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Fluorine Gas                  |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Formic Acid, 25% in w         |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Formic Acid, 25% in w         |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Formic Acid, 40-50% w         |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Formic Acid, 98% in w         |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Freon 11                      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Freon 12                      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Furfural                      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Fuel Oil                      |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Gallate, 17% in acetone       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Glycerol, Automotive          |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Glycerol, 50% in w            |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Glycerol, (Glycerin)          |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Glycolic Acid, 70% in w       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Heptane                       |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hyaluronic Acid               |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hydrobromic Acid, 30-50% in w |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hydrobromic Acid, 100% in w   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hydrochloric Acid, 10% in w   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hydrochloric Acid, 37% in w   |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |
| Hydrocyanic Acid              |                  |                  |                      |                  |                |            |               |                  |                |               |                  |                    |              |                  |                      |           |

E = Excellent G = Good F = Fair

W = Water

Alc = Alcohol

Conc = Concentrated

Chemical resistance ratings based on inner liner material.

NOTE: Concentrations of room temperature liquids are given in % volume. Concentrations of room temperature solids are given in % weight.

Chemical Resistance Properties

|                                  | Tygon® S3™ B-44-J | Tygon® S3™ B-44-K | Tygon® S3™ B-44-LX IB | Tygon® S3™ E-303 | Tygon® S3™ E-LR | Tygon® 2375 | Tygon® A-60-F | Tygon® A-60-F IB | Tygon® B-44-F | Tygon® E-1000 | Tygon® E-70-V-CE | Tygon® SPT-3350 | Tygon® SPT-3370 IB | Tygon® XL-60 | Tygon® S3™ M-34-R | Tygon® S3™ A24-A24-C | Tygon® II |
|----------------------------------|-------------------|-------------------|-----------------------|------------------|-----------------|-------------|---------------|------------------|---------------|---------------|------------------|-----------------|--------------------|--------------|-------------------|----------------------|-----------|
| Hydrofluoric Acid, 10% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrofluoric Acid, 25% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrofluoric Acid, 40-48% in w   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Gas                     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Peroxide, 3% in w       |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Peroxide, 10% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Peroxide, 30% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Peroxide, 90% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Sulfide, 8% in w        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hydrogen Sulfide, 7% in w        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Hypochlorous Acid, 15% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Iodine, 50 ppm in w              |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Isobutyl Alcohol                 |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Isopropyl Acetate                |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Isopropyl Alcohol                |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Isopropyl Ether                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Jet Fuel, JP8                    |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Ketones                          |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lacquer Solvents                 |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lactic Acid, 3.10% in w          |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lactic Acid, 85% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lead Acetate, 5% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lead Sulfate                     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lemon Oil                        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Linoleic Acid                    |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Linseed Oil                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Lubricating Oil, Petroleum       |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Magnesium Carbonate, 1% in w     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Magnesium Chloride, 1% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Magnesium Hydroxide, 10% in w    |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Magnesium Nitrate, 50% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Magnesium Sulfate, 25% in w      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Malic Acid, 30% in w             |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Manganese Sulfate                |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mercuric Chloride, 6% in w       |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mercuric Cyanide, 8% in w        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mercury Sulfate                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methane Gas                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Acetate                   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Bromide                   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Chloride                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Ethyl Ketone (MEK)        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Isobutyl Ketone           |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methylene Chloride               |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Methyl Methacrylate              |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mineral Oil                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mineral Spirits                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Mosses                           |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Naphthalene                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Natural Gas                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nickel Chloride, 40% in w        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nickel Chloride, 15% in w        |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nickel Sulfate                   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nickel Sulfate, 25% in w         |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitric Acid, 10% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitric Acid, 40% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitric Acid, 60% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitrobenzene                     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitromethane                     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitrous Acid, 10% in w           |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Nitrous Acid, 15% in w           |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Animal                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Essential                   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Hydraulic (Phosphate Ester) |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Hydrocarbon                 |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Mineral                     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Paraffinic                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oil, Sulfuric                    |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Olefin Acid                      |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oleum, 25% in w                  |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Ortho Dichlorobenzene            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oxalic Acid, 12% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Oxalic Acid, 12% in w            |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Ozone, 100pphm                   |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |
| Phenolic Acid, 100% in ether     |                   |                   |                       |                  |                 |             |               |                  |               |               |                  |                 |                    |              |                   |                      |           |

E = Excellent G = Good F = Fair S = Satisfactory W = Water A = Alcohol  
 ++ Chemical resistance ratings based on inner liner material.  
 NOTE: Concentrations of room temperature liquids are given in % volume. Concentrations of room temperature solids are given in % weight.

[illegible]

**Zinc Salts**

|                    | E        | E         | E                   | E                       | E |
|--------------------|----------|-----------|---------------------|-------------------------|---|
| Environ., % Conc.* | G = Good | F = Fair  | X = Not Recommended | — = Testing In Progress |   |
|                    |          | W = Water | alc = Alcohol       |                         |   |

\* If concentration is not indicated, assume 100% concentration or the maximum percent soluble.

NOTE: Chemical resistance ratings based on linear fiber material.

NOTE: Concentrations of room temperature liquids are given in % volume. Concentrations of

# TYPICAL PHYSICAL PROPERTIES OF FLEXIBLE TUBING

Physical properties of a tubing produced from a specific compound will vary depending on its diameter and wall thickness. The following typical physical properties are average values as measured using test methods of the American Society for Testing and Materials. Unless otherwise noted, all tests were conducted at room temperature (73°F). Values shown were determined on 0.075" thick extruded strip or 0.075" thick molded ASTM plaques or molded ASTM diameters buttons.

IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain tubing for all intended uses, including establishing the compatibility of any fluid with the tubing through which it is transmitted. Laboratory, field or clinical tests must be conducted in accordance with applicable requirements in order to determine the safety and effectiveness for use of tubing in any particular application. If intended for medical use, it is the user's responsibility to ensure that the tubing to be used complies with all applicable medical regulatory requirements.

## Typical Physical Properties

| Tubing               | Diameter<br>Hardness (Shore A),<br>1/3 sec | Color   | Opacity     | Tensile<br>Strength |      | Ultimate<br>Elongation, % | Tear<br>Resistance |                     |
|----------------------|--------------------------------------------|---------|-------------|---------------------|------|---------------------------|--------------------|---------------------|
|                      |                                            |         |             | psi                 |      |                           |                    | ASTM Method<br>D412 |
|                      |                                            |         |             | ASTM Method<br>D412 | MPa  |                           |                    |                     |
| ASTM Method<br>D2240 |                                            | N/A     | N/A         |                     |      |                           |                    |                     |
| Tygon S3™ B-44-3     | 66                                         | Clear   | Transparent | 2200                | 15.2 | 390                       | 250                | 43.8                |
| Tygon S3™ B-44-4X    | 66                                         | Clear   | Transparent | 2200                | 15.2 | 390                       | 250                | 43.8                |
| Tygon S3™ B-44-4X IB | 66                                         | Clear   | Builed      | 2200                | 15.2 | 390                       | 250                | 43.8                |
| Tygon S3™ E-3603     | 56                                         | Clear   | Transparent | 1750                | 12.1 | 425                       | 173                | 31.0                |
| Tygon S3™ E-47L      | 56                                         | Clear   | Transparent | 1800                | 12.4 | 400                       | 184                | 32.2                |
| Tygon S3™ 2375       | 75                                         | Clear   | Translucent | 1900                | 13.1 | 850                       | 240                | 42.0                |
| Tygon A-60-F         | 61                                         | Cream   | Opaque      | 1000                | 6.9  | 375                       | 120                | 21.0                |
| Tygon A-60-F IB      | 61                                         | Cream   | Opaque      | 1000                | 6.9  | 375                       | 120                | 21.0                |
| Tygon B-44-F         | 82*                                        | Neutral | Transparent | 6050                | 41.7 | 500                       | 475                | 83.1                |
| Tygon E-1000         | 40                                         | Clear   | Translucent | 1100                | 7.6  | 435                       | 104                | 18.2                |
| Tygon E-70V-CE       | 72                                         | Clear   | Translucent | 2300                | 15.8 | 240                       | —                  | —                   |
| Tygon SPT-50 LF      | 51                                         | Clear   | Translucent | 1200                | 9.1  | 627                       | —                  | —                   |
| Tygon SPT-3350       | 50                                         | Clear   | Translucent | 1450                | 10.0 | 770                       | 200                | 35.0                |
| Tygon SPT-3370 IB    | 70                                         | Clear   | Translucent | 1200                | 8.3  | 500                       | 250                | 43.8                |
| Tygon XL-60          | 60                                         | Clear   | Translucent | 1630                | 11.2 | 770                       | 190                | 33.3                |
| Tygon S3™ P-34-A     | 66                                         | Clear   | Translucent | 2205                | 15.2 | 390                       | 250                | 43.8                |
| Tygon S3™ A24        | 56                                         | Clear   | Transparent | 1755                | 12.1 | 425                       | 177                | 31.0                |
| Tygon S3™ A24-C      | 56                                         | Black   | Transparent | 1755                | 12.1 | 425                       | 177                | 31.0                |
| Tygon II             | 68                                         | Cream   | Translucent | —                   | —    | 950                       | 200                | 35.0                |
| Tygon F-4000-A       | 57                                         | Yellow  | Translucent | 1820                | 12.5 | 310                       | 167                | 29.0                |
| Tygon LP-1100        | 69                                         | Yellow  | Translucent | 2400                | 16.5 | 450                       | 167                | 29.0                |
| Tygon LP-1200        | 78                                         | Clear   | Translucent | 3600                | 24.8 | 475                       | 500                | 87.6                |
| Tygon LP-1600        | 85                                         | Clear   | Translucent | 5000                | 34.5 | 400                       | 560                | 98.0                |
| Tygon LP-1600        | 72                                         | Grey    | Opaque      | 2700                | 18.6 | 300                       | —                  | —                   |
| Tygon SPT-60 L       | 60                                         | Clear   | Translucent | 900                 | 6.2  | 300                       | —                  | —                   |
| Tygon WSA-60         | 61                                         | Black   | Opaque      | 1000                | 6.9  | 375                       | 120                | 21.0                |
| Tygon A-60-G         | 61                                         | Black   | Opaque      | 1000                | 6.9  | 375                       | 120                | 21.0                |
| Tygon Chemical       | 61                                         | Cream   | Opaque      | 1000                | 6.9  | 375                       | 120                | 21.0                |
| Tygon 2375-C         | 75                                         | Clear   | Translucent | 1900                | 13.1 | 850                       | 240                | 42.0                |
| Venturi™ SFX-50      | 50                                         | Clear   | Translucent | 1500                | 10.3 | 450                       | 148                | 26.0                |
| Venturi™ SFX-70 IB   | 71                                         | Clear   | Builed      | 1200                | 8.3  | 300                       | 130                | 22.8                |
| Venturi™ 2001        | 69                                         | Clear   | Translucent | 800                 | 5.5  | 500                       | 140                | 24.5                |
| Venturi™ C-210-A     | 82*                                        | Clear   | Transparent | 6050                | 41.7 | 500                       | 475                | 83.1                |
| Venturi™ C-544-A IB  | 85*                                        | Clear   | Builed      | 5000                | 34.5 | 400                       | 350                | 61.3                |
| Venturi™ R-3600      | 64                                         | Black   | Opaque      | 2250                | 15.5 | 350                       | 185                | 32.0                |
| Venturi™ F-500-A     | 60*                                        | Black   | Opaque      | 1400                | 9.3  | 300                       | 100                | 17.5                |
| Venturi™ SE-200      | 64*                                        | Clear   | Translucent | 2200                | 15.2 | 390                       | 250                | 43.8                |
| Venturi™ Silver      | 69                                         | Silver  | Opaque      | 2300                | 15.8 | 350                       | 250                | 43.8                |
| Venturi™ FEP         | 55D*                                       | Clear   | Transparent | 2600                | 17.9 | 325                       | —                  | —                   |
| Venturi™ PFA         | 60D*                                       | Clear   | Translucent | 2500                | 17.2 | 300                       | —                  | —                   |
| Venturi™ PTFE        | 58D*                                       | Clear   | Translucent | 2650                | 18.3 | 250                       | —                  | —                   |
| Venturi™ MJ          | 58D*                                       | Clear   | Transparent | 3750                | 26.0 | 300                       | —                  | —                   |
| Venturi™ PVDF        | 65D*                                       | Clear   | Opaque      | 2900                | 20.0 | 400                       | —                  | —                   |
| Venturi™ ETFE        | 72D*                                       | Clear   | Opaque      | 6800                | 47.0 | 300                       | —                  | —                   |
| Venturi™ Duality     | 48D*                                       | Clear   | Translucent | —                   | —    | —                         | —                  | —                   |

9.75% of ultimate elongation

\* Second reading

\*\* Diameter measured on outer jacket

NOTE: The ratings in the charts DO NOT reflect the extent to which extraction may occur, or the extent to which fluids may undergo any physical changes in properties or composition, as a result of coming into contact with the tubing. Saint-Gobain makes no representation or warranty with respect to the susceptibility of any fluid to become contaminated or undergo changes in properties or composition as a result of possible extractions of tubing ingredients by the fluid to be transmitted. Certain corrosives that would be destructive to tubing with prolonged exposure can be satisfactorily handled for short periods of time if flushed with water after use. All ratings are based on room temperature (73°F). Chemical resistance will be adversely affected by elevated temperatures.

| Specific Gravity | Water Absorption, % at 73°F (23°C) for 24 hrs. | Compression Set, % at 181°F (83°C) for 22 hrs. | Maximum Recommended Operating Temp. | Brittleness by Impact Temp. |                  |      |                  | Low Temp. Flexibility |                  | Tensile Set, % |    |  |
|------------------|------------------------------------------------|------------------------------------------------|-------------------------------------|-----------------------------|------------------|------|------------------|-----------------------|------------------|----------------|----|--|
|                  |                                                |                                                |                                     | °F                          |                  | °C   |                  | °F                    |                  |                | °C |  |
|                  |                                                |                                                |                                     | ASTM Method D570            | ASTM Method D395 | N/A  | ASTM Method D746 | ASTM Method D380      | ASTM Method D412 |                |    |  |
| ASTM Method D972 |                                                |                                                |                                     |                             |                  |      |                  |                       |                  |                |    |  |
| 1.20             | 0.22                                           | 59                                             | 165                                 | 74                          | -32              | -36  | -49              | -45                   | 57               |                |    |  |
| 1.21             | 0.22                                           | 59                                             | 165                                 | 74                          | -32              | -36  | -49              | -45                   | 57               |                |    |  |
| 1.21             | 0.22                                           | 59                                             | 165                                 | 74                          | -32              | -36  | —                | —                     | 57               |                |    |  |
| 1.21             | 0.21                                           | 64                                             | 165                                 | 74                          | -51              | -46  | —                | —                     | 95               |                |    |  |
| 1.17             | 0.20                                           | 68                                             | 165                                 | 74                          | -51              | -46  | —                | —                     | 54               |                |    |  |
| 0.90             | 0.04                                           | 100                                            | 130                                 | 54                          | -103             | -75  | —                | —                     | 300              |                |    |  |
| 0.98             | 0.30                                           | 30                                             | 275                                 | 135                         | -75              | -40  | —                | —                     | 57               |                |    |  |
| 0.98             | 0.30                                           | 30                                             | 275                                 | 135                         | -75              | -40  | —                | —                     | 57               |                |    |  |
| 1.20             | 1.12                                           | 68                                             | 175                                 | 79                          | -100             | -73  | —                | —                     | 98               |                |    |  |
| 1.10             | 0.29                                           | 55                                             | 125                                 | 52                          | -47              | -55  | —                | —                     | —                |                |    |  |
| 1.20             | <0.01                                          | —                                              | 160                                 | 71                          | -47              | -44  | —                | —                     | —                |                |    |  |
| —                | —                                              | —                                              | —                                   | —                           | —                | —    | —                | —                     | —                |                |    |  |
| 1.14             | 0.11                                           | 7                                              | 400                                 | 204                         | -112             | -80  | —                | —                     | —                |                |    |  |
| 1.18             | 0.11                                           | 3                                              | 320                                 | 160                         | -112             | -80  | —                | —                     | 25               |                |    |  |
| 0.90             | 0.07                                           | 55                                             | 250                                 | 121                         | -87              | -66  | —                | —                     | 100              |                |    |  |
| 1.21             | 0.22                                           | 59                                             | 165                                 | 74                          | -33              | -36  | —                | —                     | 57               |                |    |  |
| 1.21             | 0.21                                           | 64                                             | 165                                 | 74                          | -32              | -36  | —                | —                     | 95               |                |    |  |
| 1.21             | 0.21                                           | 64                                             | 165                                 | 74                          | -32              | -36  | —                | —                     | 95               |                |    |  |
| 1.18             | —                                              | —                                              | 212                                 | 100                         | -112             | -80  | -45              | —                     | —                |                |    |  |
| 1.26             | 0.49                                           | 65                                             | 165                                 | 74                          | -35              | -37  | —                | —                     | 50               |                |    |  |
| 1.29             | 0.49                                           | 65                                             | 180                                 | 82                          | -35              | -37  | —                | —                     | 50               |                |    |  |
| 1.27             | 0.70                                           | 35                                             | 180                                 | 82                          | -130             | -90  | -40              | -40                   | 90               |                |    |  |
| 1.18             | 0.90                                           | 35                                             | 185                                 | 85                          | —                | —    | -40              | -40                   | 35               |                |    |  |
| 1.32             | 0.47                                           | —                                              | 180                                 | 82                          | —                | —    | —                | —                     | —                |                |    |  |
| 1.12             | —                                              | —                                              | 350                                 | 176                         | —                | —    | —                | —                     | —                |                |    |  |
| 0.98             | 0.30                                           | 27                                             | 275                                 | 135                         | -75              | -40  | —                | —                     | 47               |                |    |  |
| 0.98             | 0.30                                           | 30                                             | 275                                 | 135                         | -75              | -40  | —                | —                     | 47               |                |    |  |
| 0.98             | <0.01                                          | 30                                             | 165                                 | 74                          | -75              | -40  | —                | —                     | 57               |                |    |  |
| 0.90             | 0.04                                           | 100                                            | 130                                 | 54                          | -103             | -75  | —                | —                     | 300              |                |    |  |
| 1.17             | 0.06                                           | 10                                             | 350                                 | 177                         | -112             | -80  | —                | —                     | 8                |                |    |  |
| 1.20             | 0.08                                           | 10                                             | 320                                 | 160                         | -112             | -80  | —                | —                     | 10               |                |    |  |
| 0.88             | 0.04                                           | 40                                             | 135                                 | 57                          | -108             | -78  | -100             | -73                   | 110              |                |    |  |
| 1.20             | 1.12                                           | 68                                             | 175                                 | 79                          | -100             | -73  | —                | —                     | 98               |                |    |  |
| 1.12             | 1.80                                           | 19                                             | 180                                 | 82                          | -100             | -73  | —                | —                     | 45               |                |    |  |
| 1.31             | 0.19                                           | 64                                             | 165                                 | 74                          | -4               | -21  | —                | —                     | 56               |                |    |  |
| 1.90             | 0.23                                           | 37                                             | 400                                 | 204                         | -40              | -51  | —                | —                     | 13               |                |    |  |
| 1.21             | <0.01                                          | 59                                             | 165                                 | 74                          | -32              | -36  | —                | —                     | 57               |                |    |  |
| 1.21             | <0.01                                          | 63                                             | 165                                 | 74                          | -31              | -35  | —                | —                     | 63               |                |    |  |
| 2.17             | <0.01                                          | —                                              | 400                                 | 204                         | -100             | -73  | —                | —                     | —                |                |    |  |
| 2.17             | <0.03                                          | —                                              | 500                                 | 260                         | -200             | -196 | —                | —                     | —                |                |    |  |
| 2.18             | <0.01                                          | —                                              | 500                                 | 260                         | -450             | -268 | —                | —                     | —                |                |    |  |
| 2.15             | <0.03                                          | —                                              | 450                                 | 227                         | -320             | -196 | —                | —                     | —                |                |    |  |
| 1.77             | 0.03                                           | —                                              | 250                                 | 121                         | —                | —    | —                | —                     | —                |                |    |  |
| 1.70             | <0.01                                          | —                                              | 300                                 | 150                         | -150             | -66  | 200              | 100                   | —                |                |    |  |
| —                | <0.01                                          | —                                              | 180                                 | 82                          | —                | —    | 25               | -32                   | —                |                |    |  |