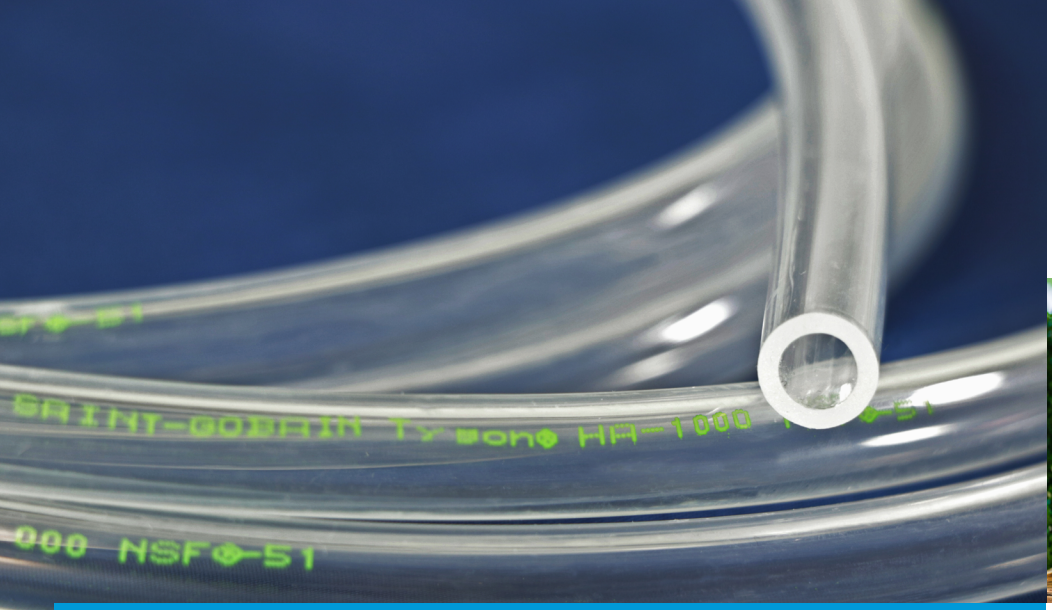


TYGON®
Excellence By Design

# Tygon® HA-1000

## Chemical Resistant Tubing for Food and Beverage Dispensing

Tygon® HA-1000 tubing is designed specifically for food and beverage applications involving high alcohol and high acidic content. With outstanding chemical resistance to high alcohol, high acidity media, the tubing is an ideal choice for room temperature and chilled media transfer. Lightweight and smooth, Tygon® HA-1000 has a non-porous bore to inhibit particle entrapment and resists staining better than most soft plastics. The tubing has outstanding resistance to harsh alkaline cleaners and is unaffected by commonly used sanitizers. The Relative Chemical Resistance Properties chart on the following page highlights that the tubing is virtually unaffected by acids, bases, salts and alcohols.

### Flexible and Translucent

Tygon® HA-1000 tubing is flexible, making it easy to maneuver within the food and beverage dispensing equipment. Easy to install, versatile with fittings and connectors. The tubing is also translucent, allowing for easy visual inspection and fluid monitoring. Tygon® HA-1000 does not contain plasticizers or DEHP, eliminating fluid contamination as well as premature brittleness and cracking, commonly seen with many other flexible tubings.

### Typical Applications

- Alcoholic beverages: wine transfer, liquor and alcoholic cocktails dispensing
- Acidic foods dispensing such as vinegar, salad dressing, ketchup, mustard, citric acid
- High Staining potential beverage transfer: flavored electrolyte beverages, cold brew coffee, cranberry juice

### Features and Benefits

- Outstanding chemical resistance to alcoholic and acidic foods
- Smooth, non-porous inner surface resists particle entrapment and provides a better flow
- Resists stains from highly acidic and pigmented condiments
- Clear wall enables visualization of fluid flow
- Contains no plasticizers or phthalates
- Low sorption - minimizes cross contamination, maintains media purity

### Regulatory Compliance*

- Compliant with applicable FDA Food Additive Regulation 21 CFR 170-189
- EU 10/2011
- List in NSF/ANSI 51 Food Equipment Materials
- REACH Regulation (EC) No 1907/2006

* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance.

SAINT-GOBAIN

# Tygon® HA-1000

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## Tygon® HA-1000

| Part Number | ID | | OD | | Wall Thickness | | Length | | Min. Bend Radius | | Max. Working Pressure | | Vacuum Rating | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (in) | (mm) | (in) | (mm) | (in) | (mm) | (ft) | (m) | (in) | (mm) | 73°F (psi) | 23°C (bar) | 73°F (inHg) | 23°C (mmHg) |
| AVT00002 | 1/16 | 1.6 | 1/8 | 3.2 | 1/32 | 0.8 | 50 | 15.2 | 1/4 | 6.4 | 40 | 2.75 | 29.9 | 760 |
| AVT00007 | 1/8 | 3.2 | 1/4 | 6.4 | 1/16 | 1.6 | 50 | 15.2 | 1/4 | 6.4 | 40 | 2.75 | 29.9 | 760 |
| AVT00012 | 3/16 | 4.8 | 5/16 | 7.9 | 1/16 | 1.6 | 50 | 15.2 | 1/2 | 12.7 | 30 | 2.06 | 29.9 | 760 |
| AVT00017 | 1/4 | 6.4 | 3/8 | 9.5 | 1/16 | 1.6 | 50 | 15.2 | 3/4 | 19.1 | 25 | 1.72 | 29.9 | 760 |
| AVT00027 | 3/8 | 9.5 | 1/2 | 12.7 | 1/16 | 1.6 | 50 | 15.2 | 1-1/2 | 38.1 | 17 | 1.17 | 20.0 | 508 |
| AVT00029 | 3/8 | 9.5 | 5/8 | 15.9 | 1/8 | 3.2 | 50 | 15.2 | 1-1/8 | 28.6 | 25 | 1.72 | 29.9 | 760 |
| AVT00038 | 1/2 | 12.7 | 3/4 | 19.1 | 1/8 | 3.2 | 50 | 15.2 | 1-1/2 | 38.1 | 25 | 1.72 | 29.9 | 760 |

Working pressures are calculated at a 1:5 ratio relative to burst pressure using ASTM D1599.

## Typical Physical Properties

| Property | ASTM Method | Value or Rating |
|---|---|---|
| Durometer Hardness, (Shore A), 15 sec | D2240 | 75 |
| Color | | Clear |
| Tensile Strength, psi (MPa) | D412 | 1900 (13.1) |
| Ultimate Elongation, % | D412 | 850 |
| Tear Resistance, lb-f/in (kN/m) | D1004 | 240 (42.0) |
| Specific Gravity | D792 | 0.90 |
| Water Absorption, % at 73°F (23°C) for 24 hrs | D570 | 0.04 |
| Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs | D395 Method B | 100 |
| Maximum Recommended Operating Temp., °F (°C) | | 130 (54) |
| Low Temp Flexibility, °F (°C) | | -103 (-75) |
| Brittleness by Impact Temp., °F (°C) | D746 | -103 (<-75) |
| Tensile Stress, psi (MPa) @ 100% Elongation | D412 | 425 (2.9) |
| Tensile Set, % | D412 | 300 |

**The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures, including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.**

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 durometer buttons.

## Relative Chemical Resistance Properties

| Acids | | | Bases | | | Salts | Alcohol Ethanol |
|---|---|---|---|---|---|---|---|
| Conc. | Med. | Weak | Conc. | Med. | Weak | | |
| G | E | E | E | E | E | E | E |

E = Excellent G = Good F = Fair U = Unsatisfactory
All tests conducted at room temperature

## Compatibility with Food & Beverage Cleaners & Sanitizers

| Type A | Type B | Type C | Type D | Type E | Type F |
|---|---|---|---|---|---|
| Sodium Carbonate (10-30%) Sodium Dichloro-s-triazinetrione Dihydrate (6%) | Peracetic Acid (6%) | Sodium Hydroxide (30-35%) | Phosphoric Acid (20-40%) | Quaternary Ammonium Cations | Sodium Hypochlorite (10%) |
| E | E | E | G | G | E |

E = Excellent G = Good F = Fair U = Unsatisfactory
All tests conducted at room temperature

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