



# Tygon S3™ M-34-R

## Tubing for Milking Equipment

Tygon S3™ M-34-R tubing from Saint-Gobain Performance Plastics is now phthalate-free. Saint-Gobain is proud to be among the first companies to offer sustainable flexible tubing products. The bio-based Tygon S3™ line combines the high performance standards customers demand with an eco-friendly tubing design.

### Reduced Maintenance and Inspection Concerns

Tygon S3™ M-34-R tubing is specially formulated to reduce the risks that can occur with the use of rubber tubing. Many regulatory sanitarians throughout the world recognize Tygon S3™ as the preferred tubing for raw milk transfer.\*

Tygon S3™ tubing is entirely clear, allowing for immediate visual inspection and verification of cleanliness. Its smooth, non-porous inner surface reduces the occurrence of buildup from butterfat, milkstones and milksoil and can help to eliminate the possibility of bacteria growth within the milk transport line.

Long-lasting Tygon S3™ tubing is extremely flexible and installs quickly and easily around stanchions and milk handling equipment. It resists embrittlement and cracking from oxidation, which often shortens the service life of other tubing.

### The Mark of Quality

Every foot of Tygon S3™ M-34-R tubing has been embedded with a trademark blue stripe within the tubing walls. The embedded blue stripe is your assurance of receiving genuine Tygon S3™ tubing, the world's finest raw milk tubing produced specifically for the dairy industry.

### Tygon S3™ Large Bore and Vacuum (Air) Tubing

The same reliability and performance found in Tygon S3™ M-34-R tubing is also available for tank truck operators. Produced in large bore sizes up to 3 inch ID, Tygon S3™ tubing's clarity, flexibility and cleanability are ideally suited for bulk milk transfer.

Tygon S3™ quality is also produced in single and twin tube configurations ideally suited for supply air transport. The smooth inner surface is less susceptible to particle entrapment, which can restrict air flow, while crystal clarity permits detection of equipment deficiencies such as backflow of milk into the air lines.



### Features and Benefits

- Crystal clarity permits visual inspection of milk flow
- Smooth, non-porous bore resists build-up
- Lightweight and flexible for quick installation
- Non-wetting properties allow easy cleaning and complete drainage
- Durability for long and reliable service
- Contains no BPA or phthalates

### Regulatory Compliance

- Complies with FDA 21 CFR 175.300, REACH, 1935/2004/EC and 10/2011/EU\*
- Tubing products do not contain chemicals listed in California's Proposition 65

\* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance. The complete compliance information and use instructions can be found at [www.TygonS3.com](http://www.TygonS3.com).

## Tygon S3™ M-34-R

Part Number	ID		OD		Wall Thickness		Min. Bend Radius		Max. Working Pressure		Vacuum Rating	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	73°F (psi)*	23°C (bar)*	73°F (inHg)	23°C (mmHg)
ACK02305	7/16	11.11	3/4	19.05	5/32	3.97	1-1/8	28.58	45	3.1	29.9	760
ACK02039	1/2	12.70	13/16	20.64	5/32	3.97	1-1/2	38.10	41	2.8	29.9	760
ACK00043	9/16	14.29	15/16	23.81	3/16	4.76	1-1/2	38.10	42	2.9	29.9	760
ACK02043	9/16	14.29	15/16	23.81	3/16	4.76	1-1/2	38.10	42	2.9	29.9	760
ACK03043	9/16	14.29	15/16	23.81	3/16	4.76	1-1/2	38.10	42	2.9	29.9	760
ACK04043	9/16	14.29	15/16	23.81	3/16	4.76	1-1/2	38.10	42	2.9	29.9	760
ACK02048	5/8	15.88	1	25.40	3/16	4.76	1-3/4	44.45	41	2.8	29.9	760
ACK03048	5/8	15.88	1	25.40	3/16	4.76	1-3/4	44.45	41	2.8	29.9	760
ACK04048	5/8	15.88	1	25.40	3/16	4.76	1-3/4	44.45	41	2.8	29.9	760
ACK02056	3/4	19.05	1-5/32	29.37	13/64	5.16	2-1/4	57.15	36	2.5	29.9	760
ACK07056	3/4	19.05	1-5/32	29.37	13/64	5.16	2-1/4	57.15	36	2.5	29.9	760
ACK00061	7/8	22.23	1-3/8	34.93	1/4	6.35	2-1/2	63.50	38	2.6	29.9	760
ACK02061	7/8	22.23	1-3/8	34.93	1/4	6.35	2-1/2	63.50	38	2.6	29.9	760
ACK37061	7/8	22.23	1-3/8	34.93	1/4	6.35	2-1/2	63.50	38	2.6	29.9	760
ACK00065	1	25.40	1-1/2	38.10	1/4	6.35	3	76.20	33	2.3	25.0	635
ACK02065	1	25.40	1-1/2	38.10	1/4	6.35	3	76.20	33	2.3	25.0	635
ACK36075	1-1/2	38.10	2-1/4	57.15	3/8	9.53	4-3/8	111.13	33	2.3	26.0	660
ACK02075	1-1/2	38.10	2-1/4	57.15	3/8	9.53	4-3/8	111.13	33	2.3	26.0	660
ACK36079	2	50.80	2-3/4	69.85	3/8	9.53	6-7/8	174.63	26	1.8	14.0	355
ACK05087	3	76.20	4	101.60	1/2	12.70	10-5/8	269.88	25	1.7	11.0	279

\*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	66
Color	—	Clear
Tensile Strength, psi (MPa)	D412	2205 (15.2)
Ultimate Elongation, %	D412	390
Tear Resistance, lb-f/in (kN/m)	D1004	250 (43.8)
Specific Gravity	D792	1.21
Water Absorption, % at 73°F (23°C) for 24 hrs.	D570	0.22
Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs.	D395	59
Maximum Recommended Operating Temp., °F (°C)	—	165 (74)
Brittleness by Impact Temp., °F (°C)	D746	-33 (-36)
Tensile Stress, psi (MPa) @ 200% Elongation	D412	1378 (9.5)
Tensile Set, %	D412	57

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.

### Tygon S3™ M-34-R Tubing Cleaning Instructions

To extend the usable life of Tygon S3™ M-34-R tubing and reduce the risk of bacterial growth resulting from a buildup of milksoil film, the following cleaning and sanitary procedures must be followed:

- Following milking and dumping, rinse tubing with clean water at 109°F (43°C) without recirculating until discharge is clear.
- Wash tubing with alkaline cleaner (containing no caustic soda) for 10-15 minutes at 149°F (65°C); final dump temperature should not be below 109°F (43°C).
- Use an acid rinse to prevent milkstone deposits.
  - Perform daily after each cleaning for 5 minutes with cold- to room-temperature water.
  - Perform a once-weekly acid rinse for 15 minutes with 109°F (43°C) to 140°F (60°C) water in place of the alkaline cleaner used in Step 2.
- Purge moisture by draining and passing warm filtered air through the tubing until complete dryness is achieved.
- Sanitize tubing immediately prior to use following the manufacturer's recommended procedures.

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.

**TYGON S3™ M-34-R TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.**



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**NOTE:** The data and details given in this document are correct and up to date. This document is intended to provide information about the product and possible applications. This document is not the product specification and does not provide specific features, nor does it guarantee product performance in specific applications. Saint-Gobain cannot anticipate or control the conditions of the field and for this reason strongly recommends that practical tests are conducted to ensure that the product meets the requirements of a specific application.

Tygon S3™ is a trademark of Saint-Gobain Performance Plastics.