



Tygon S3™ M-34-R

Dairy Tubing

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 76,2 mm 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 buildup
- 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.

Tygon S3™ M-34-R

Part Number	ID	OD	Wall Thickness	Length	Min. Bend Radius	Max. Working Pressure	Vacuum Rating	Weight per Length
	(mm)	(mm)	(mm)	(m)	(mm)	23°C (bar)	mmHg at 23°C	(kg)
ACK02305	11,11	19,05	3,97	30,48	28,58	3,1	760	8,2
ACK02039	12,70	20,64	3,97	30,48	38,10	2,8	760	9,1
ACK00043	14,29	23,81	4,73	15,24	38,10	2,9	760	7,3
ACK02043	14,29	23,81	4,76	30,48	38,10	2,9	760	12,7
ACK03043	14,29	23,81	4,76	76,20	38,10	2,9	760	31,6
ACK04043	14,29	23,81	4,76	152,40	38,10	2,9	760	65,8
ACK02048	15,88	25,40	4,76	30,48	44,45	2,8	760	13,2
ACK03048	15,88	25,40	4,76	76,20	44,45	2,8	760	35,0
ACK04048	15,88	25,40	4,76	152,40	44,45	2,8	760	68,0
ACK02056	19,05	29,37	5,16	30,48	57,15	2,5	760	18,6
ACK07056	19,05	29,37	5,16	121,92	57,15	2,5	760	70,3
ACK00061	22,23	34,93	6,35	15,24	63,50	2,6	760	12,3
ACK02061	22,23	34,93	6,35	30,48	63,50	2,6	760	24,5
ACK37061	22,23	34,93	6,35	91,44	63,50	2,6	760	68,0
ACK00065	25,40	38,10	6,35	15,24	76,20	2,3	635	13,6
ACK02065	25,40	38,10	6,35	30,48	76,20	2,3	635	27,8
ACK36075	38,10	57,15	9,53	18,29	111,13	2,3	660	34,9
ACK02075	38,10	57,15	9,53	30,48	111,13	2,3	660	56,3
ACK36079	50,80	69,85	9,53	18,29	174,63	1,8	355	49,0
ACK05087	76,20	101,60	12,70	6,10	269,88	1,7	279	40,8

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, 15s	D2240	66
Tensile Strength, MPa	D412	15,2
Ultimate Elongation, %	D412	390
Tear Resistance, kN/m	D1004	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 Method B	59
Brittleness by Impact Temp., °C	D746	-36
Maximum Recommended Operating Temp., °C	—	74
Tensile Stress, at 200% Elongation, MPa	D412	9,5
Tensile Set, at 75% Elongation	D412	57
Color	—	Clear

Unless otherwise noted, all tests were conducted at room temperature (23°C). Values shown were determined on 1,905 mm thick extruded strip or 1,905 mm 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 43°C without recirculating until discharge is clear.
- Wash tubing with alkaline cleaner (containing no caustic soda) for 10-15 minutes at 65°C; final dump temperature should not be below 43°C.
- Use an acid rise 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 43°C to 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.