AMARI PLASTICS

DATA SHEET

Technical Data Sheet

Product characteristics

Virgin PTFE for Ram Extrusion, Compression and Isostatic moulding.

Product characteristics

- Good mechanical properties
- Exceptional temperature resistance
- High limiting oxygen index
- UV resistance
- Extremely non-adhesive
- Excellent chemical resistance
- Excellent electrical insulating properties
- Reduced friction & wear; Low friction behaviour
- Suitable for food contact
- High degree of hydrophobicity

	PROPERTY	METHOD	UNITS	SPECIFICATION
Physical	Color	-	-	White
	Specific gravity	ASTM D792	g / cm^3	2,130-2,190
	Water absorption	ASTM D570	%	0,01
	Flammability	UL 94		V-0
Mechanical	Tensile strength	ASTM D4894	MPa	≥ 20
	Elongation	ASTM D4894	%	≥ 200
	Hardness	ASTM D2240	Shore D	≥ 54
	Ball Hardness	ASTM D785	MPa	≥ 23
	Compression strength at 1% deformation	ASTM D695	MPa	≥ 4
	Deformation under load (140 Kg/cm^2 for 24 hrs. At 23°C)	ASTM D621	%	10 – 13
	Permanent deformation (after 24 hrs. Relaxation at 23°C)	ASTM D621	%	6 – 7,5
	Coefficient of static friction	ASTM D1894		0,08 – 0,10
	Coefficient of dynamic friction	ASTM D1894		0,06 – 0,08
	Wearfactor K	ASTM D3702		2.900
	Wear coefficient		cm^3 min 10-8 Kg m h	20000 - 25000

Amari Plastics
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	PROPERTY	METHOD	UNITS	SPECIFICATION
Thermal	Thermal conductivity	ASTM C177	W/m.K	0,34
	Coefficient of linear thermal expansion From 25 to 100 °C	ASTM D696	10^{-5}/ °C	12 - 15
Electrical	Dielectricstrength	ASTM D149	kV/mm	≥ 30
	Volume resistivity	ASTM D257	Ohm.cm	10^{18}
	Surfaceresistivity	ASTM D257	Ohm	10^{17}

PTFE Standard Grade

Typical properties.

PTFE Standard Grade preferred for parts and components requiring very good mechanical properties.

It offers an excellent combination of properties typical of the fluoropolymer resins:

- Service Temperature: P 1000 offers excellent resistance to continuous service temperatures – working conditions from -100°C (-148°F) up to +250°C (482°F) and, for limited periods, even to higher temperatures; Product's low temperature resistance allows satisfactory performance down to –200°C (-328°F).
- Chemical resistance: P 1000 offers high inertness towards nearly all known chemicals. Only attacked elemental alkali metals, chlorine trifluoride and elemental fluorine at high temperature and pressures might affect properties.
- Solvents resistance: P 1000 offers insoluble properties in all solvents up to temperatures as high as 300°C (572°F). Certain highly fluorinated oils only swell and dissolve PTFE at temperatures close to the crystalline melting point.

Typical Application.

PTFE Standard Grade offers useful properties in various applications such as chemical resistance, thermal stability, cryogenic properties, low coefficient of friction, low surface energy, low dielectric constant, high volume and surface resistivity, and flame resistance.

These properties allow the application of PTFE Standard Grade in several fields such as Chemical, Electrical and Electronic, Petrochemical, Automotive, Mechanical, Medical, Aeronautics, Semiconductor and Food industry. Statement on suitability for contact with foodstuff.

Statement on suitability for contact with foodstuff.

FDA Approved US Regulation

- Code of Federal regulation 21 CFR Ch.1; section177.1550Perfluorocarbon Resins of the Food and Drug Administration/US.

EU Regulation

- EU 1935/2004 - 10/2011 on plastic materials and articles to come in contact with food.

NSF International, NSF/ANSI 61 Drinking Water System Components - Health Effects, Joining and Sealing Materials:

- This product is also evaluated for use in Mechanical Plumbing Device applications with a maximum use restriction of 10.0 sq. in./L.
- Certified for a maximum surface area to volume of 10 sq. in./L.
- Commercial hot: 180° F/82° C

Certificate of sanitary conformity (ACS)

Migration tests performed according to the standard XP P 41-250
S/V tested rateo 3 cm2/L
Test date: from February 01 to March 23, 2016
File reference: 16 MAT NY 010

KTW (Kunststoffe und Trinkwasser).

The samples of this product meet the test criteria of DVGW (Deutsche Vereinigung des Gas - und Wasserfaches) and also the requirements of the KTW, Tests of effect on Water Quality, suitability to the use with hot (up to 85° C) and cold water.
Test report TZW-Az. KA 147/14 (rel. date 01.07.2014)

DVGW Arbeitsblatt W 270

The samples complies with its microbiological requirements.
Test report TZW-Az. MO 149/14 (re. date 30.07.2014)

BS 6920-1: 2000

The samples of this product meet the test criteria of BS 6920-1: 2000 (specification) and thus do conform with the requirements of the Water Regulations Advisory Scheme (WRAS) Tests of effect on Water Quality, and is suitable for use with hot (up to 85° C) and cold water.
Testing of non metallic materials for use with drinking water (BS 6920: 2000) – test report M 104482 and M 104423.

Storage and Handling.

PTFE Standard Grade can be stored for a long period of life and is exceptionally resistant to aging and weather conditions up to 10 years. Specific aging tests carried out on sample exposed to aging and atmospheric conditions, showed no changes in weight and volume. In case of semi-finished products, before processing or before the machining, it is advisable to store the material for 24 hours in the production area, preferable in a clean and dry place at a temperature of less than 25°C (77°F), preferably between 21-25°C (70-77°F). This is very important when room temperature is low; in such cases the material should be conditioned up to 72 hours in the production area in the recommended temperature range.

Safety instruction.

Follow the normal precautions observed with all fluoropolymer materials.
Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing, machining, and using these products poses no known health risks. General handling and processing precautions include: 1) Process only in well-ventilated areas. 2) Do not smoke in working areas. 3) Avoid eye contact. 4) Avoid mouth contact. 5) If skin comes into contact with these products during handling, wash with soap and water afterwards. 6) Avoid contact with hot fluoropolymers.

The user must verify that the finished parts, made out of the semi-finished product, are technically suitable for the requested application. The user must also verify that the finished item may not cause any modification to the organo-leptic properties of the foodstuff and that the item's technological fitness it is assigned to may be guaranteed.
For each foreign country market, where the articles are introduced into, it is user's responsibility to verify whether both material than articles comply with the applicable laws and regulations.

Delivery format.

PTFE Standard Grade is supplied in the following shapes and formats:
Semi-finished products: rods, tubes, sheets, tapes, strips. Shapes and sizes as per fluorseals General Size List and/as per customer request.
Machined parts: Shapes and sizes as per customer request.