Technical Specifications for Corrosion-Resistant Perfluoroalkoxy Polymer (PFA) Industrial Hose

Perfluoroalkoxy (PFA) Industrial Tubing Technical Data Sheet

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Manufacturer: Hefei YuanNai Pneumatic Equipment Co., Ltd. / YUANNAI TUBE
Quality Commitment: 20 years of dedication · 100% pure raw materials · Zero recycled materials

1. Product Overview and Material Properties

This product is manufactured by extruding carefully selected, pure new PFA (perfluoroalkoxy polymer) material; no recycled or regenerative material is added. It is recommended for applications involving the conveyance of industrial chemical media, connections to laboratory equipment, and auxiliary piping in equipment requiring corrosion resistance and high-temperature resistance. PFA offers excellent chemical resistance, electrical insulation properties, and high-temperature performance, and can be melt-processed into tubing.

- **Applicable media:** strong acids, strong bases, strong oxidizing agents, various organic solvents, etc.
- **Main application areas:** auxiliary piping for chemical process equipment, fluid connections in laboratories, automated equipment, and conveying pipelines where the flow of the medium needs to be observed.
- **Appearance:** Products in their natural color and with translucency are preferred; the degree of transparency, color, and surface gloss shall be determined based on the confirmed samples.
- **Applications related to semiconductors:** wet etching, wafer cleaning, delivery of high-purity chemical solutions/ultrapure water, etc.
- **Environmental protection and special compliance:** Complies with the environmental protection requirements of RoHS and REACH.

2. Physical and Mechanical Properties

Test item	Recommended value/reference value
Density	Approximately 2.12–2.17 g/cm³
Hardness	60 Shore D
Tensile Strength	>25 MPa
Elongation at Break	>250%
Melting Temperature	Approximately 300–310 °C
24-hour water absorption rate (Water Absorption)	0.01%
Operating temperature range of the finished product	-200°C ~ +260°C

3. Specifications and dimensions, as well as pressure-bearing parameters (under standard conditions of 23°C)

(1) Metric Sizes

Model	External diameterOD	Bore sizeID	Common difference	Working pressureWP	Bursting pressure of tank shellBP	Bending radius	Standard sample length
YN-PFA 0425	4.0 mm	2.5 mm	±0.10 mm	16 bar (224 psi)	48 bar (672 psi)	30 mm	100m
YN-PFA 0640	6.0 mm	4.0 mm	±0.10 mm	17 bar (238 psi)	52 bar (728 psi)	36 mm	100m
YN-PFA 0850	8.0 mm	5.0 mm	±0.10 mm	20 bar (280 psi)	60 bar (840 psi)	50 mm	100 m
YN-PFA 0855	8.0 mm	5.5 mm	±0.10 mm	20 bar (280 psi)	60 bar (840 psi)	55 mm	100 m
YN-PFA 0860	8.0 mm	6.0 mm	±0.10 mm	13 bar (182 psi)	40 bar (580 psi)	64 mm	100 m
YN-PFA1065	10.0 mm	6.5 mm	±0.10 mm	19 bar (270 psi)	58 bar (812 psi)	80 mm	100 m
YN-PFA 1080	10.0 mm	8.0 mm	±0.10 mm	14 bar (196 psi)	42 bar (588 psi)	88 mm	100 m
YN-PFA 1280	12.0 mm	8.0 mm	±0.10 mm	18 bar (261 psi)	56 bar (784 psi)	72 mm	100 m
YN-PFA 1410	14.0 mm	10.0 mm	±0.10 mm	12 bar (168 psi)	36 bar (504 psi)	98 mm	100 m
YN-PFA 1612	16.0 mm	12.0 mm	±0.10 mm	10 bar (87 psi)	30 bar (420 psi)	128 mm	100 m

(2) Imperial Fractional/inch Sizes

Nominal specifications	External diameterOD	Bore sizeID	Common difference	Working pressureWP	Bursting pressure of tank shellBP	Bending radius	Standard sample length
1/8″	3.175 mm	1.58 mm	±0.10 mm	16 bar (232 psi)	64 bar (928 psi)	14 mm	100 m
1/4″	6.350 mm	4.35 mm	±0.10 mm	10 bar (145 psi)	40 bar (580 psi)	37 mm	100 m
3/8″	9.525 mm	6.35 mm	±0.10 mm	10 bar (145 psi)	40 bar (580 psi)	40 mm	100 m
1/2″	12.70 mm	9.60 mm	±0.10 mm	6 bar (87 psi)	24 bar (348 psi)	100 mm	100 m

4. Packaging, Appearance, and Customization Support (OEM/ODM)

1. Standard color: high transparency
2. Packaging specifications: wrap film packaging

The indicators in this data table represent reference values based on laboratory tests conducted at room temperature; for specific operating conditions, please refer to the actual test results.