Document Number: TDS-FEP-2026-V6
Manufacturer: Hefei Yuan Nai 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

Manufactured from carefully selected, entirely new raw materials via extrusion; no recycled or reclaimed materials are added. It is recommended for industrial fluid transport, chemical medium piping, connections in laboratory equipment, and other applications requiring corrosion resistance and light transmission for observation. Finished FEP pipes exhibit excellent transparency, chemical resistance, and hot-melt processing characteristics.

- **Applicable media:** strong acids, strong bases, salt solutions, various organic solvents, oxidizing agents, 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.
- **Product positioning:** Fixed piping for industrial equipment, connections for pneumatic components, auxiliary instrumentation piping, and proven lubrication piping systems.
- **Key features:** transparent and visible, resistant to high and low temperatures, and resistant to corrosion, acids, and alkalis.
- **Environmental protection and special compliance:** Compliance with RoHS, REACH, food-contact requirements, drinking-water requirements, medical-device requirements, etc. shall be subject to the valid documentation pertaining to the respective raw materials, color formulations, and finished products; such compliance is not assumed by default.

## 2. Physical and Mechanical Properties

| Test item | Numeric value |
|---|---|
| Density | Approximately 2.12–2.17 g/cm$^3$ |
| Hardness | 55 ± 5 Shore D |
| Tensile Strength | >20 MPa |
| Elongation at Break | ≥250% |
| Melting Temperature | Approximately 260°C |
| 24-hour water absorption rate (Water Absorption) | Approximately 0.01% |
| Operating temperature range of the finished product | -196°C ~ +200°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-FEP 0425 | 4.0 mm | 2.5 mm | ±0.10 mm | 16 bar (224 psi) | 48 bar (672 psi) | 25 mm | 100m |
| YN-FEP 0640 | 6.0 mm | 4.0 mm | ±0.10 mm | 17 bar (238 psi) | 52 bar (728 psi) | 40 mm | 100m |
| YN-FEP 0850 | 8.0 mm | 5.0 mm | ±0.10 mm | 20 bar (280 psi) | 60 bar (840 psi) | 60 mm | 100 m |
| YN-FEP 0855 | 8.0 mm | 5.5 mm | ±0.10 mm | 20 bar (280 psi) | 60 bar (840 psi) | 65 mm | 100 m |
| YN-FEP 0860 | 8.0 mm | 6.0 mm | ±0.10 mm | 13 bar (182 psi) | 40 bar (580 psi) | 70 mm | 100 m |
| YN-FEP1065 | 10.0 mm | 6.5 mm | ±0.10 mm | 19 bar (270 psi) | 58 bar (812 psi) | 80 mm | 100 m |
| YN-FEP 1080 | 10.0 mm | 8.0 mm | ±0.10 mm | 14 bar (196 psi) | 42 bar (588 psi) | 110 mm | 100 m |
| YN-FEP 1280 | 12.0 mm | 8.0 mm | ±0.10 mm | 18 bar (261 psi) | 56 bar (784 psi) | 100 mm | 100 m |
| YN-FEP 1410 | 14.0 mm | 10.0 mm | ±0.10 mm | 12 bar (168 psi) | 36 bar (504 psi) | 120 mm | 100 m |
| YN-FEP 1612 | 16.0 mm | 12.0 mm | ±0.10 mm | 10 bar (145 psi) | 30 bar (420 psi) | 160 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) | 13 mm | 100 m |
| 1/4″ | 6.350 mm | 4.35 mm | ±0.10 mm | 10 bar (145 psi) | 40 bar (580 psi) | 50 mm | 100 m |
| 3/8″ | 9.525 mm | 6.35 mm | ±0.10 mm | 10 bar (145 psi) | 40 bar (580 psi) | 26 mm | 100 m |
| 1/2″ | 12.70 mm | 9.60 mm | ±0.10 mm | 6 bar (87 psi) | 24 bar (348 psi) | 130 mm | 100 m |

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

1. Standard colors: high-transparency, transparent blue, transparent red
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.