YUANNAI TUBE

Polyamide 12 (PA12) Nylon Pneumatic Tubing

Technical Data Sheet | English translation

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Manufacturer: Hefei Yuannai Pneumatic Equipment Co., Ltd.

Source quality commitment: 20 years of focus | 100% virgin material | No regrind

1. Product overview and material characteristics

Extruded from selected virgin material, with emphasis on dimensional stability, media resistance and routing adaptability. PA12 offers low moisture absorption, good dimensional stability and chemical resistance. No recycled or reprocessed material is added. The wording of the overview has been regularised from a malformed sentence in the Chinese source without adding a technical claim.

• Suitable media: compressed air, mineral/hydraulic oil, diesel, petrol and antifreeze, among others.

• Extended applications: lubricating oil, ambient-temperature industrial water and other industrial media require material-compatibility and application-condition validation before use.

• Product positioning: fixed industrial equipment routing, pneumatic-component connections, auxiliary instrumentation lines and validated lubrication lines.

• Environmental documentation: RoHS and REACH conformity is subject to valid declarations or test reports for the actual resin, colour masterbatch and finished product.

• Special uses: suitability for food contact, drinking water, medical use or breathing-gas systems is not a default commitment.

2. Physical and mechanical properties

Test item	Reference value
Density	Approx. 1.01 g/cm³
Hardness	65 ± 5 Shore D
Tensile stress at yield	Dry: >48 MPa; conditioned: >38 MPa
Tensile modulus	Dry: approx. 1600-1700 MPa; conditioned: approx. 1100-1250 MPa
Water/moisture absorption	Approx. 0.3%-0.7%
Melting temperature	Approx. 180°C
Pneumatic operating temperature range	-40°C to +120°C

3. Dimensions and pressure parameters at 23°C

Metric sizes. OD = outside diameter; ID = inside diameter; WP = working pressure; BP = burst pressure.

Model	OD	ID	Tolerance	WP	BP	Bend radius	Roll length
YN-PA12 0425	4.0 mm	2.5 mm	±0.10 mm	29 bar (426 psi)	64 bar (928 psi)	20 mm	200 m
YN-PA12 0640	6.0 mm	4.0 mm	±0.10 mm	27 bar (398 psi)	83 bar (1209 psi)	30 mm	200 m
YN-PA12 0850	8.0 mm	5.0 mm	±0.10 mm	29 bar (426 psi)	86 bar (1251 psi)	30 mm	100 m
YN-PA12 0855	8.0 mm	5.5 mm	±0.10 mm	19 bar (266 psi)	57 bar (798 psi)	45 mm	100 m
YN-PA12 0860	8.0 mm	6.0 mm	±0.10 mm	17 bar (256 psi)	49 bar (711 psi)	50 mm	100 m
YN-PA12 1065	10.0 mm	6.5 mm	±0.10 mm	24 bar (355 psi)	83 bar (1209 psi)	80 mm	100 m
YN-PA12 1080	10.0 mm	8.0 mm	±0.10 mm	14 bar (213 psi)	31 bar (455 psi)	85 mm	100 m
YN-PA12 1280	12.0 mm	8.0 mm	±0.10 mm	16 bar (241 psi)	48 bar (696 psi)	93 mm	100 m
YN-PA12 1410	14.0 mm	10.0 mm	±0.10 mm	12 bar (174 psi)	48 bar (696 psi)	75 mm	100 m
YN-PA12 1612	16.0 mm	12.0 mm	±0.10 mm	14 bar (213 psi)	39 bar (568 psi)	95 mm	100 m

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3. Dimensions and pressure parameters - continued

Fractional / inch sizes. Dimensions and units below are reproduced from the source.

Nominal size	OD	ID	Tolerance	WP	BP	Bend radius	Roll length
1/8″	3.175 mm	1.58 mm	±0.10 mm	20 bar (290 psi)	80 bar (1160 psi)	25 mm	200 m
1/4″	6.350 mm	4.35 mm	±0.10 mm	14 bar (203 psi)	56 bar (812 psi)	30 mm	200 m
3/8″	9.525 mm	6.35 mm	±0.10 mm	14 bar (203 psi)	56 bar (812 psi)	80 mm	100 m
1/2″	12.70 mm	9.60 mm	±0.10 mm	10 bar (145 psi)	40 bar (580 psi)	125 mm	100 m

4. Packaging, appearance and customisation (OEM/ODM)

• Standard colours: milky white, dark blue, black and red (custom colours available).

• Example of metre-marked printing: AIR PASSAGE PA12 8X5 001M. Customer brand logos, model identification and continuous metre markings can be customised.

• Packaging: stretch-film wrapping.

Source data and translation notes

The values in the source data sheet are laboratory reference values at ambient temperature. Actual operating conditions must be verified by testing.

Numbers, models, units and inequalities are reproduced from the supplied Chinese document. Some bar/psi pairs in the source are inconsistent; no conversion has been substituted. Confirm the applicable pressure rating with the manufacturer before specification or use. Burst pressure is not a working-pressure rating.

Media lists, performance, compliance and special-use statements above are translated source statements, not independent certification or application approval. Obtain applicable material/finished-product documents and validate the medium, concentration, temperature, pressure and fitting combination for the intended use.

English document prepared from the user-supplied V5 source version. AIR PASSAGE is retained as a product marking.