The 4 types · side-by-side

Distributor-facing reading. Each row gives best-for, key trade-off, capacity, price band, and how many of SPC's tier slots carry an option at that product type.

PRODUCT TYPE	BEST FOR	KEY TRADE-OFF	TYPICAL CAPACITY	PRICE BAND	BRANDS SPC CARRIES
Polyethylene (PE) Tubing LOW-COST UTILITY RUNS · LOW-PRESSURE · FDA GRADES AVAILABLE	**Utility air, instrument-sense, drain lines.** Cost-effective general-purpose tubing for utility air runs, drain and instrument-sense lines, and low-pressure connections that don't see oil, coolant, aggressive chemistry, or constant flexing. FDA-compliant grades for food-contact service.	LOWER PRESSURE, LOWER ABRASION RESISTANCE Lower pressure and temperature ceilings than nylon; less abrasion and flex-fatigue resistance than PU. Should not be specified into a constant-motion application or a high-pressure circuit: pick PU or nylon there.	Metric + inch OD LDPE · HDPE grades	$	2 / 5 · MANTOVA + POLYCONN
Polyurethane (PU) Tubing THE FLEX-LIFE CHAMPION · HIGHEST-VOLUME TUBING	**Default for general air + constant-flex motion.** FRL to valve, valve to cylinder, fitting to fitting: the highest-volume tubing item in the category. Softest and most flexible polymer in the lineup, tightest bend radius, best flex-fatigue resistance. The right call for robot arms, end-effectors, and hand-tool drops.	OILS, SOLVENTS, SUSTAINED HEAT ALL PUSH PAST PU Degraded by many oils, solvents, and cutting fluids; modest upper temperature ceiling; cracks under sustained UV/ozone unless stabilized. For oil or coolant service → nylon, for chemistry or high heat → fluoropolymer.	4-12 mm metric · 1/4"-1/2" inch 95A soft (robotics) · 98A firm (general)	$	2 / 5 · SANG-A + POLYCONN
Nylon (PA) Tubing PA12 WORKHORSE · OIL-RESISTANT · 240-350 PSI	**CNC coolant, lubrication, fuel, transport air-brake.** CNC machine coolant and oil-lubrication lines, fuel service, transport air-brake lines, centralized lubrication plumbing. PA12 is dimensionally stable (very low moisture absorption) and resists fuels, lubricating oils, and aggressive coolants where PU would swell and fail.	RIGID · LARGER BEND RADIUS Larger minimum bend radius than PU and less tolerance for constant flexing: nylon is a static-run and routed-run material, not a constant-flex material. For runs that articulate every cycle, stay with PU.	4-12 mm metric · 1/8"-1/2" inch PA12 (workhorse) · PA6 (cost grade)	$ – $$	2 / 5 · MANTOVA + POLYCONN

FEP / PTFE Tubing NEAR-INERT · PHARMA, FOOD, LAB, SEMICONDUCTOR	**Where PU and nylon both fail.** Pharmaceutical, food contact, laboratory, semiconductor, and aggressive chemical service. Chemically near-inert across solvents, acids, and bases that would dissolve a thermoplastic; very wide temperature range; UV-stable; transparent for visual flow inspection.	LOWER PRESSURE RATING · SEVERAL TIMES THE COST Lower working-pressure rating than PU or nylon at comparable OD; costs several times more; project-based sourcing rather than deep stock. Specified when chemistry, purity, temperature, or UV exposure leaves no thermoplastic alternative: not as a general upgrade.	1/8"-1/2" + 4-12 mm metric FEP (flexible) · PTFE (stiff, high-temp)	$$$	2 / 5 · MANTOVA + POLYCONN

Reading the brand bench column: the bar shows how many of SPC's tier slots carry an option at that product type. The four tubing materials each run two brands deep: Mantova and Polyconn cover PE, nylon, and FEP/PTFE, while PU pairs Polyconn with the anchor. Sang-A is the anchor on PU tubing : one of the three deepest stock positions in the building, alongside composite and brass PTC. Tubing is selected by chemistry and motion, not by cost: the bench depth follows the spec, not the price tier.