Samantha Howard

Balloon Payload Tubing

<http://www.mcmaster.com/#standard-plastic-and-rubber-tubing/=zgvf71>

High-Strength Clear PVC Tubing

* Very flexible
* Temperature Range (-31 C - 50 C)
* Highest strength and abrasion resistance of any PVC tubing offered by McMaster
* Remains flexible at low temperatures
* PSI depends on diameter - may be low

<http://www.mcmaster.com/#standard-plastic-and-rubber-tubing/=zgvexk>

Crack-Resistant Polyethylene Tubing

* Flexible
* Firm
* Temperature Range (-73 C - 80 C)
* Superior resistance to stress cracking
* Flexibility at low temperatures
* PSI depends on diameter

<http://www.mcmaster.com/#standard-plastic-and-rubber-tubing/=zgvg5p>

High-Pressure White Nylon Tubing

* Flexible
* Hard
* Temperature Range (-51 C - 93 C)
* Super-hard walls
* Tubing has strength to withstand twice as much pressure as other nylon tubing
* 800 psi?

<http://www.emcoplastics.com/materials/chemfluor-767/>

Chemfluor 767 Tubing (PolyChloroTriFluoroEthylene) (PCTFE)

* Fluorocarbon based polymer
* Chemical resistance
* Near zero moisture absorption
* High compressive strength
* Exceptional resistance to cold flow
* Performs well in temperature range of -400 F to 400 F

<http://www.emcoplastics.com/materials/etfe/>

Ethylene tetrafluoroethylene, ETFE

* Fluorine based plastic
* High corrosion resistance
* Tensile strength of 42 N/mm^2 (6100 psi)
* Strength over a wide temperature range - (-185 C to +150 C)
* Commonly used in aviation/aerospace industries for wire coatings

Industrial grade vinyl tubing → only to -50 C

?Low Density Polyethylene → only to -40 C

\*<http://www.usplastic.com/catalog/item.aspx?itemid=23791>

<http://www.emcoplastics.com/materials/makrolon/>

Polycarbonate Tubing

* 1” - ⅛”
* Wide temperature range - extreme low
* High impact strength
* Virtually unbreakable
* Lightweight
* Glass-like transparency
* High dimensional stability - easy to mold

<http://www.usplastic.com/catalog/item.aspx?itemid=23327&catid=670>

NYLON

Semi-Flexible Nylon Pressure Tubing 6/6

* Temperature range -53 C to 71 C
* High strength - high pressures ? (we need low pressure)
* Cheap
* Very small diameters