

Materials List for:

In Situ High Pressure Hydrogen Tribological Testing of Common Polymer Materials Used in the Hydrogen Delivery Infrastructure

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Materials

Name	Company	Catalog Number	Comments
EPDM Polymer Stock Sheet	McMaster-Carr	8525T68	24" x 24", 1/8" Thick
Pressure Vessel, Autoclave	Fluitron Inc.	8308-1788-U	5" diameter, 1' height
High Purity Hydrogen Gas	Praxair	HY4.5	Grade 4.5, 5ppm O2, 5 ppm H2O
O2 Sensor	Advanced Micro Instruments	T2	0-5ppm min. range, 10,000ppm max.
Pre-purified Argon Gas	Oxarc	LCCO-HP818	High-purity, 99.998%
Liquid Dishwashing Detergent	McMaster-Carr	98365T89	32 oz pour bottle, lemon scented
Mildew Resistant Sponge	McMaster-Carr	7309T1	6" long x 3 -1/2" Wide x 1" High, yellow
PTFE Pipe Thread Sealant Tape	McMaster-Carr	4591K12	1/2" wide, white color
Gas Tube Fittings	Swagelok	SS-400-1-4	1/4" OD, stainless steel, male NPT threading
Hammer Driven Die	McMaster-Carr	3427A22	7/8" Hammer driven hole punch
Linear Variable Differential Transformer	Omega	LD320-2.5	2.5mm, AC output, guided w/spring
Autoclave O-ring Seal	Fluitron Inc.	A-4511	Hastelloy C-276, 5-3/4" OD x 5" ID x 3/8"
Torque Wrench	McMaster-Carr	85555A422	Adjustable Torque-Limiting Wrench, Quick-Release, 1/2" Square Drive, 50-250 ft.-lbs. Torque
Mallet	McMaster-Carr	5939A11	Hard and Extra-Hard Rubber Hammer, 2-1/4 lbs.
iLoad Mini Capacitive Load Sensor	Loadstar Sensors	MFM-050-050-S*C03	50 lb, U Calibration, 0.5% Accuracy, Steel