



High Water Hose Inc.

"The Mark of Quality"

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Deluge™



Applications

- ▶ "LDH" Supply Overland Volume Hose
- ▶ Supplying Stand Pipe Systems
- ▶ Supply Line
- ▶ Supply stand alone portable Hydrants

Hose Construction

Large water flows impose very special requirements for hose. It is mandatory that the hose is designed specifically for flowing large amounts of water at maximum working pressure. To meet these unique needs, the finished product shall be flexible, abrasion, heat and kink resistant. Recognizing also the physical limitations of the Firefighter, the maximum weight of the hose shall be controlled without compromising these properties. Hose shall be constructed of top quality synthetic yarns woven into an optimized web. This shall then be matrix encapsulated with specially formulated Nitrile rubber to produce high strength, great oil and chemical resistance, and low friction loss. To ensure complete conformance, the resultant hose must meet the following minimum requirements or it will be unacceptable.

Hose Physical Properties

Hose shall be evaluated in accordance with the principles and practices listed in the National Fire Protection Association Standard 1961 (Latest edition) and related standards. As a minimum it shall meet the requirements of NFPA 1961 (Latest edition) for Supply Hose and if required, listing by Underwriters Laboratories (U.L.). Also, when tested as such it shall have the following minimum properties:

Ultimate Tensile Strength

Tensile strength of the vulcanized rubber compound used in the hose shall not be less than 1750 psig.

Ultimate Elongation

Ultimate elongation of the vulcanized rubber compound shall be not less than 500%.

Permanent Elongation

Permanent elongation of the vulcanized rubber compound shall be less than 22%.

Adhesion

The adhesion between samples of the reinforcement web and either the liner or the cover shall exceed NFPA 1961 requirements. The sample width shall be 1 1/2" as called out in the standard.

Accelerated Aging Properties

When subjected to hot air oven aging at 158°F for 96 hours, the tensile strength and ultimate elongation shall be at least 75% of the original values.

Heat Resistance

When subjected to an internal static water pressure of 100 psi, the hose shall withstand a surface temperature of 1200°F for at least 60 seconds without bursting.

Cold Resistance

Hose shall be capable of practical use down to -35°F

Ozone Resistance.

When evaluated in accordance with standards ASTM D 1149 and ASTM D518, procedure B, 70 hours at 118°F, 100 pphm of ozone, the cover or liner shall show no visible signs of cracking.



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Chemical Resistance.

Contamination by most chemical substances, oils, greases, hydrocarbons, and exposure to sea water shall have no effect on the short or long-term performance of the hose. A copy of the chemical resistance chart for the hose shall be provided on request by the manufacturer.

Abrasion and Wear Resistance.

Long term use is determined in no small measure by the abrasion resistance of the cover of the hose. To ensure this is adequate, the hose, when built to the weights listed, shall withstand the following abrasion tests:

Underwriters Laboratories Method.

When tested according to the method listed in Underwriters Laboratories Inc. Standard 219, Hose shall withstand 7,000 cycles on the defined reciprocating abrasion tester.

Taber Abraser Method.

When evaluated against the procedure listed in ASTM D2215 Reinforcement shall not show signs of damage after 15,000 cycles.

Water Absorption.

When tested against the procedure listed in MIL STD 24606 the maximum water absorbance shall be no more than 0.5 lbs in a 50 foot length.

Packability

Because packability is vital, each 100' of coupled hose, as supplied, shall be capable of occupying a volume of no greater than 3.89 cubic feet, for 4" and 4.48 cubic feet for 5", when averaged over a 1,000 foot hose lay.

Couplings.

- ▶ The couplings and collars shall be gold anodized for greater visibility and better corrosion resistance. Powder Coating is not acceptable. Coupling shank shall be metal. Plastic is unacceptable.
- ▶ The coupling must be designed in such a way to completely protect the lock from damage that could occur when using the hose, particularly during deployment (Lock Protector). Locks shall be metal.
- ▶ When Storz couplings are requested, the hose must be coupled using lock protector technology. When gold anodized finish is specified, the Storz lock lever must have recessed reflective material to facilitate rapid identification and nighttime visibility. The reflective material must reflect towards any light source. The gold anodized coupling must also have recessed engraved arrows pointing the direction of coupling engagement. These arrows must be located 180 degrees opposite the lock lever and these recessed reflective arrows must also provide nighttime visibility.
- ▶ The coupling must be manufactured in North America and be NAFTA compliant. Written certification is required.
- ▶ Couplings must be marked permanently and legibly with Country of origin per NFPA 1963 latest edition.
- ▶ Paper labels are not permanent, and as such are unacceptable, no exceptions.

Burst, Hydrostatic and Friction Loss Data.

Hose shall comply with the requirements listed in the tables below and the requirements of The National Fire Protection Association Standard 1961, Latest Edition.

Miscellaneous

- ▶ The hose shall be U.L. (US) and U.L.C. (Canada) listed, and can be labeled U.L. or U.L.C. upon request.
- ▶ Each fire hose must be tested to "test pressure" with their couplings installed. A letter of certification must be available upon request.

Technical Grid / Grille Technique / Rejilla Técnica

Trade Size		Bowl Size		Wt. 100' (30.5M) Coupled		Coil Diameter 100' (30.5M)		Service Pressure		Test	Pressure		Burst Pressure	
In.	mm	In.	mm	Lbs	Kg	In.	Cm.	PSI	kPa	PSI	kPa	PSI	kPa	
4	102	4 3/8	111	83.0	37.7	24.0	61.0	250	1 725	500	3 450	750	5 175	
5	127	5 3/8	137	108.0	49.1	26.0	66.0	200	1 375	400	2 750	600	4 140	

Pessure Loss at nozzle / Perte de pression au bec / Pérdida de presión al pico (100' /33M)													
In.	mm	400 gpm	600 gpm	800 gpm	1000 gpm	1250	1500 gpm	1750 gpm	2000 gpm	2250 gpm	2500	3000	
4	102	1.4	3.2	5.9	9.1	13.7	20.5	27.5					
5	127	0.5	1.2	2.1	3.4	5.1	7.6	9.1	13.1			30.2	