

DURATTACK™

**SPECIFICATION FOR
1-3/4" & 2-1/2"**

**MUNICIPAL FIRE HOSE
CONSTRUCTION
IMPREGNATED OUTSIDE JACKET**

NORTH AMERICAN FIRE HOSE

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SPECIFICATION FOR 800 PSI 1-3/4" & 2-1/2" MUNICIPAL FIRE HOSE IMPREGNATED JACKET

HOSE CONSTRUCTION:

Hose meeting specification shall be designed and constructed specifically for aggressive interior fire attack operations. Outer jacket shall be woven from high quality, synthetic filament yarns, outer jacket over an inner lining consisting of a one piece extruded through-the-weave tube that makes the tube, jacket, liner, and cover one piece. The finished hose shall be heat resistant, kink resistant and have a low friction loss design. The finished hose shall be designed with the lowest resistance to drag. Friction loss and water pick-up are primary items.

INNER HOSE PROPERTIES

When tested in accordance with the procedures listed in NFPA 1961-92 and other related standards, liner or cover shall have the following properties as indicated:

Ultimate Tensile Strength: Tensile strength of liner shall not be less than 1500 psi.

Ultimate Elongation: Ultimate Elongation of liner compound shall not be less than 400%.

Permanent Elongation: Permanent elongation of liner rubber compound shall not exceed 20%.

Accelerated Aging Test: Hose shall meet requirements of U.L. Standard 19 for accelerated aging. The Fire Department reserves the right to forward 3 foot samples, cut from lengths of delivered hose, to a nationally recognized laboratory for testing. The tests shall cover the physical requirements on the linings as well as the jackets as outlined in these specifications. If the hose passes, the cost will be paid by the Fire Department. If the hose fails, the cost shall be paid by the supplier. Failure to comply with these specifications will be cause for all hose to be rejected.

The Fire Department also reserves the right to request one sample cut from each 1000 feet of delivered hose. The sample will be a minimum length necessary to conduct ozone resistance, accelerated aging, adhesion and liner tensile tests by the manufacturer. The results of these test, along with the samples are to be forwarded to the Fire Department.

Adhesion: Adhesion between reinforcement and liner shall be a minimum of 20 lbs. When tested using the NFPA 1961 procedure.

Ozone Resistance: Hose shall show no visible signs of cracking of the liner or cover when tested in accordance with ASTM D1149-91 and ASTM D518-86 (R91), Procedure B, 100 pphm/118° F/70 hours.

Chemical Resistance: Exposure to sea water and contamination by most chemical substances, hydrocarbons, oil, and grease must have no effect on the short or long term performance of the hose. Standard chemical resistance charts for the liner shall be provided by manufacturer.

OUTER HOSE PROPERTIES:

Outer jacket shall be woven from high quality Cordura® polyamide yarns. The outside jacket shall be thoroughly impregnated with a high performance polymer (Color To Be Advised), which shall enhance the abrasion resistance and heat resistance of the hose assembly. The polymer compound shall be heat set in the textile of the outside jacket at temperatures not less than 250° F. Coatings applied to finished hose and/or set with ambient temperature processes are not acceptable. To assure consistency in color and penetration, the impregnation shall be applied to continuous jackets up to 5000 feet in length or the total

footage of the order requirement, which ever is least. Available in Ultra-Shield colors of yellow, red, tan or orange. To ensure adequate abrasion resistance, the minimum number of warp plies per inch shall be 52.

SAFETY FACTORS

Abrasion Resistance Safety Factors: Abrasion resistance bears a direct relationship to the safe performance of fire hose. The U.L. abrasion test is felt to most closely reproduce fire department's actual fire ground conditions and is therefore considered of prime importance. Hose meeting all the abrasion resistance safety factors listed below shall do so without exceeding the average weights listed.

Abrasion Resistance-U.L. Method: Hose shall pass a burst test after 3,000 cycles on a reciprocating abrasion tester - as specified in U.L. Standard 219. **Factory Mutual Method:** When a sample of coupled hose is submitted to the procedure listed in FM Standard 2111 or Mil-H-24606A (SH), there shall be no signs of leakage after 15,000 cycles of abrasion.

Cold Resistance Safety Factor: Hose shall be capable of safe use down to -50°F for a duration of 24 hours. The hose shall not leak or show any damage to the reinforcement when subjected to hydrostatic acceptance test pressure. **Flashover Resistance Safety Factor:** Heat resistance bears a direct relationship to the safe performance of the hose on the fire ground and as such will not be compromised. Hose meeting the heat resistance safety factors listed below shall do so without exceeding the weights listed. The hose when subjected to a static pressure of 100 psi shall be capable of safety withstanding a surface temperature of 1000°F for a minimum of 45 seconds without bursting.

Water Pick-up Weight: The tendency for a hose to absorb water while in a wet environment can create significant handling difficulties. When tested against the procedure listed in Mil-H-24606, the maximum weight gain shall not exceed 3 lbs. Per 50 ft. length.

Burst Resistance Safety Factor: Hose failure due to bursting is the single most important safety concern. Hose shall have the capability of passing a 500 psi service test with a 1/2" diameter hole through both jacket and liner. Only a through-the-weave design liner will be acceptable. Hose shall have a minimum burst pressure of 1500 psi.

Hydrostatic Pressure Tests: The hose shall comply with the National Fire Protection Association Standard NFPA 1961-92.

HYDROSTATIC TESTS:

All hoses shall be in compliance with NFPA 1961 (Latest Edition) requirements for Double Jacket, 1000 PSI Proof Test Pressure, Attack Grade Fire Hose. All measurements and tests necessary to determine compliance of the fire hose with the specified requirements, shall be made in accordance with NFPA 1961 (Standard on Fire Hose), and ASTM D-30 (Standard Test Methods for Rubber Hose), except as otherwise specified. The results of these test shall be ready available, upon request by The Fire Department.

PHYSICAL DATA

Diameter	Service Pressure	Acceptance Pressure	Kink Proof Pressure	Short Length Burst	Curved Length Burst	Average Wt. 50' Coupled	Coil Size 50' Coupled
1 3/4"	500 psi	1000 psi	750 psi	1500 psi	1500 psi	18 lbs.	16.5 in.
2 1/2"	500 psi	1000 psi	750 psi	1500 psi	1500 psi	23 lbs.	18.5 in.

MARKINGS:

Beginning at a point not less than 4 feet from each end, each length shall be stenciled in indelible letters at least 1" in height, with the trade name, name of the hose manufacturer and all additional markings required by NFPA 1961 (Latest Edition), for 1000 PSI attack grade fire hose.

COUPLINGS:

The couplings supplied shall be lightweight rocker lug, and comply with NFPA 1963 Standard. One male and one female with NST threads to be properly installed on each length of hose by the hose manufacturer. The couplings shall be hard coated, and shall have tapered ends on the coupling bowls.

WARRANTY:

The manufacturer shall assure, the fire hose proposed shall meet the requirements and specifications as herein set forth. The manufacturer shall also, as part of their proposal, warranty such fire hose for a period of (3) years from date of shipment, against failure due to defects in material or workmanship. During the warranty period, any fire hose removed from service for the above referenced defect shall be repaired or replaced free of charge to the customer.