



# **X-STREAM Primary Attack Fire Hose**

## **Hose Construction**

As Fire Hose forms the front line of attack in any fire department, it is mandatory that the design encompasses the requirements of today's premier municipal firefighters. To meet these needs, HighWater Hose Inc. has developed **1 3/4" X-Stream**. HighWater Hose Inc. has taken their third generation **Matrix Encapsulated Technology** and combined it with the latest techniques used in minimizing abrasion damage, cutting and drag resistance. The synergized hoses so produced will have the following properties as a minimum:

## **Outer Jacket Properties**

The outer jacket shall be woven with high tenacity spun polyester warp yarns with a minimum diameter corresponding to 8/7 type. The jacket shall have an elastomeric impregnation to optimize abrasion resistance and dragging coefficient. Filament Yarns that create poor handling and poor jacket distortion characteristics are unacceptable.

## **Inner Hose Properties**

The hose shall be constructed of top quality synthetic yarns woven into an optimized web and embedded in a matrix of nitrile rubber, to produce high strength and low friction loss. To ensure complete conformance, the resultant hose must meet the following minimum requirements or it will be unacceptable.

(Hose shall be evaluated in accordance with the principles and practices listed in the National Fire Protection Association Standard 1961 (2002 edition) and related standards.)

## **Ultimate Tensile Strength**

Tensile strength of the vulcanized rubber compound used in the hose shall not be less than 1600 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%.

# *Hose Specification*

Mar-04

## **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.

## **Ozone Resistance.**

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

## **Synergized Hose Properties**

### **Heat Resistance**

When subjected to an internal static water pressure of 100 psi, the hose shall withstand a surface temperature of 1000°F for at least 50 seconds without bursting.

### **Cold Resistance.**

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

### **Abrasion Resistance.**

When subjected to the abrasion test listed in the Underwriters Laboratories Standard UL19, the hose shall withstand at least 3,000 cycles without compromising the hoses ability to be used as a primary attack hose as defined in NFPA Standard 1961 (2002).

### **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.

### **Water Absorption.**

When tested against the procedure listed in MIL STD 24606 the maximum water absorbance shall be less than 4 lbs in a 50' length.

### **Maintenance.**

Hose shall not support mold or mildew growth.

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## Burst, Hydrostatic and Physical Data.

Synergized hose shall comply with the requirements listed in the tables below and the requirements of The National Fire Protection Association Standard 1961, 2002.

<b>Sizes and Pressures</b>				
<b>Size</b>	<b>Bowl Size</b>	<b>Service Pressure</b>	<b>Proof Pressure</b>	<b>Minimum Burst</b>
1 3/4"	2- 1/8"	500 PSI	1000 PSI	1500 PSI

<b>Size</b>	<b>50' Av. Coupled Weight</b>	<b>50' Coil Diameter</b>
1 3/4"	18.5 lbs	17.5 ins

<b>Pressure Loss per 100' of hose in psi. Various flow rates at 100psi nozzle pressure.</b>							
<b>gpm</b>	<b>50</b>	<b>75</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>	<b>250</b>
<b>Pressure Loss (PSI)</b>	<b>3.0</b>	<b>6.0</b>	<b>9.6</b>	<b>14.9</b>	<b>21</b>	<b>38</b>	<b>57</b>