

## Big Ben® Conduit Hand Bender • Big Ben® Boru Bükme Aparatı

GB's new series of Big Ben® aluminum hand benders has improved traditional hand benders by enlarging the hook, increasing the foot pedal size and clearance, highlighting the markings and incorporating a dual sight-line system for bending on the floor or in the air. GB's new Big Ben® series offers industry standard markings to simplify the contractor's job. Made of rugged, heat-treated aluminum, the Big Ben® series is backed by a lifetime warranty and is available in the most common sizes of ½", ¾" and 1".

- All models include embossed sight lines for 10°, 22°, 30°, 45°, 60° and 90°.
- Industry-standard markings- 30° bend when handle is straight up.
- Bigger hook with a 5x durability factor.
- Bigger foot pedal- 40% larger.
- More foot room allows for a booted foot.
- Bend-back channel easily corrects conduit over-bends.
- Vise-Mate™ holds conduit while cutting or reaming.



These benders available with or without high-strength steel handle



Part Number	960	960H	961	961H	962	962H
Description	Head Only	Head & Handle	Head Only	Head & Handle	Head Only	Head & Handle
Application	½" EMT		¾" EMT – ½" Rigid		1" EMT – ¾" Rigid	
Fits Handle #	BH-75	Included	BH-75	Included	BH-100	Included
Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Weight	1.34 lbs	5.06 lbs	1.58 lbs	5.34 lbs	3.16 lbs	7.01 lbs
Bend Radius	3.69"	3.69"	4.74"	4.74"	5.81"	5.81"
EMT Size	½"	½"	¾"	¾"	1"	1"
Rigid Size	—	—	½"	½"	¾"	¾"



**Industry Standard Style**  
30° bend when handle is straight up



**Bigger Hook**  
With a 5x durability factor



**Bigger Foot Pedal**  
40% larger



**More Foot Room**  
Allows for a booted foot



**Vise-Mate™**  
Holds conduit while cutting or reaming



**Bend-Back Channel**  
Easily corrects conduit over-bends

**UpperHand™ Fish Tape • UpperHand™ Susta**

GB's series of UpperHand™ fish tapes has improved traditional hand fishing with the first ergonomic fish tape in the industry. The improved design is manufactured with impact-resistant ABS and nylon resins and includes a full, wrap-around interior ring to increase durability. The UpperHand™ series is backed by an industry leading 5-year limited warranty.

- Exclusive **Ergonomic Handle** reduces wrist strain.
- Exclusive **Comfort Formed Grip** reduces forearm strain.
- Exclusive cushioned **Rubber Hand Grips** for ease of operation and comfort (certain models).
- **Impact Modified Handle** and **Housing** that exceeds the 25 ft drop-test.
- Plated Steel Wire resists corrosion (certain models).



**A Tape for Every Job**



**Standard Carbon Steel**

Tried-and-true, tough and economical solution for wire pulling.







**Corrosion-Resistant Plated Carbon Steel (R series)**

The toughest, most durable tape for long-lasting use.



**Non-Conductive Fiberglass Core with Nylon Jacket**

Exclusive non-conductive tip and unique flat shape is easier to feed yet able to pull up to 500 lbs.

				
	<b>FTN-100R</b>	<b>FTS-65R</b>	<b>FTS-125R</b>	<b>FTS-250R</b>
<b>Tape Length</b>	100'	65'	125'	250'
<b>Tape Material</b>	Fiberglass Core w/ Nylon Jacket	Corrosion-Resistant Plated Carbon Steel		
<b>Pkg Qty</b>	1/card	1/card	1/card	1/card
<b>Handle / Housing Material</b>	Nylon / ABS w/ rubber grips	Nylon / ABS w/ rubber grips	Nylon / ABS w/ rubber grips	Nylon / ABS w/ rubber grips
<b>Tape Dimensions</b>	1/8" W	1/8" W	1/8" W	1/8" W
<b>Weight</b>	2.99 lbs	3.0 lbs	5.2 lbs	8.2 lbs
<b>Internal / External Ring Dia.</b>	5 1/2" / 12"	4" / 8 1/2"	5 1/2" / 12"	5 1/2" / 12"



**Ergonomic Handle**

Reduces fatigue and wrist strain by allowing the user to keep their wrist in a natural position

**American**

# **Polywater<sup>®</sup>**

**Corporation**



**ADHESIVES • CLEANERS  
LUBRICANTS • SEALANTS**

**YAPIŞTIRICILAR • TEMİZLEYİCİLER  
KABLO SABUNLARI • MASTİKLER**



## FST™ Foam Sealant • FST™ Mastik

### TECHNICAL DATA SHEET

#### Description

FST™ Sealant is a two-part, high-expansion foam duct sealant. It keeps water, acids, dust, gases, insects, and rodents out of the duct. FST™ Sealant expands and hardens to a “closed cell,” rigid structure. This permanent, but removable, seal blocks both water and gas under moderate pressure.

FST™ Sealant comes in a multi-use, single-plunger caulking tube package. The foam wets and adheres to metals, plastics, and concrete, and can seal ducts of different sizes, base materials, and shapes. It will conform around complex cable fill configurations. A kit contains everything required to install the duct block (application tool available separately).

#### Water Blockage

FST™ Sealant is an excellent water block. To test water blocking performance, it is installed into a conduit according to standard procedures, forming a 3-inch plug. Water is added to the system and then pressurized to create a “water head.”

Condition	Result
HDPE Duct, (SDR 13.5) No Cables	Holds 7 days at 30 psi (70 feet of water)
PVC Conduit, No Cables	Holds 450 days at 10 psi (22 feet of water)
PVC Conduit, 3 MDPE Cables	Holds 15 min at 40 psi (90 feet of water)
PVC Conduit, 3 MDPE Cables <b>bent</b> 45°, opposite directions for 5 minutes	Holds 15 min at 40 psi (90 feet of water)
PVC Conduit, 3 MDPE Cables <b>pulled</b> with 15 lbs axial force for 4 hours	Holds 15 min at 40 psi (90 feet of water)

FST™ Sealant blocks considerable water head pressure, even when forces are placed on the cable to stress the seal.



The FST™ Sealant comes in a caulking style (one plunger) tube. Package allows multiple seals. Mixing is done in the nozzle as the sealant is injected.

#### Product Benefits

- Meets 2011 NEC Articles 225.27, 230.8, 300.5(G), and 300.7(A) on Raceway Seals, and 501.15(B)(2)
- Creates a strong, resilient, chemically resistant seal
- Holds 22 feet water head pressure continuous; 70 feet water head intermittent
- Expands, cures, and seals even when water is present
- Controlled injection quantity no waste
- Seal tolerates cable movement and environmental extremes
- Compatible with common cable and wire jackets
- Single cartridge can seal multiple ducts
- Re-enterable seal can be removed
- Complies with TIA-758-B Standard 5.1.1.2.8, 5.4.2.3 and 7.4.2.8.1

#### Official Approvals

UL Recognized

Passes UL94

Class HBF fire retardant rating

## Model Specification

*The statement below may be inserted into a customer specification to help maintain engineering standards and ensure work integrity.*

Duct sealant shall be Polywater® FST™ Foam Sealant. Duct sealant shall be a 2-part, 98% closed-cell urethane foam. It shall react and set in 5-10 minutes at 70°F. It shall be capable of sealing 3/4"-10" conduits with multiple cable configurations. Duct sealant shall be reenterable. It shall be capable of withstanding temperatures from -40°F to 200° F; and be chemically resistant to gasoline, oils, dilute acids, and bases. Duct sealant shall not affect the physical or electrical properties of wire and cable.

Duct sealant shall have good adhesion to duct and cable jacket surfaces with good structural strength. It shall have 120-lb compressive strength (ASTM D1621). Duct sealant shall be capable of holding 22 ft. water head pressure continuous or 90 ft. water head pressure short-term. It shall block up to 5 psi gas or vapor continuous. It shall meet NEC codes for Raceway Seals, meet UL 94 fire rating HBF, and be UL recognized.

## Order Information

Cat #	Package Description
FST-250 (12 units/case)	8½-oz two-part foam sealant caulking tube style with resealing cap 1 ea static mixing nozzle
FST-250KIT1 (1 unit/case)	8½-oz two-part foam sealant caulking tube style with resealing cap 3 ea static mixing nozzles 4 ea 24-inch foam damming strips 1 12-inch abrasive strip
FST-250KIT (6 units/case)	1 pair disposable gloves 1 position rod 1 pre-treating wipe 1 instruction sheet
TOOL-250 (1 unit/case)	Ratchet application tool for FST-250
MXR-30T-10 (1 unit/case)	Mixing nozzle 10-pack (for FST-250)
FST-MINI-1 (1 unit/case)	50-ml two-part foam sealant, dual cartridge with resealing cap 3 ea static mixing nozzles 6 ea foam plugs
FST-MINI-B6 (6 units/case)	1 pair disposable gloves 1 instruction sheet
TOOL-50-11 (1 unit/case)	Dispensing tool for 50-ml cartridge, FST-MINI
FST-DAM (24 unit/case)	24-inch foam damming strip

\*\*Custom kits available. Call factory for details.

Quantity Calculator located online: [www.polywater.com/polywater-calculators/](http://www.polywater.com/polywater-calculators/)

FST™ Mastik, iki parçalı, yüksek genleşmeli, köpüklü bir kanal yalıtım malzemesidir. Su, asit, toz, gazlar, böcek ve kemirgenleri kanaldan uzak tutar. FST™ Mastik, genişleyip sertleşerek, kabloların çekildiği kanalın çevresinde "kapalı hücre" denebilecek dayanıklı bir yapı oluşturur. Bu kalıcı, ancak çıkarılabilir mastik conta kanala su ve gaz girişini bloke eder. Metal, plastik ya da beton kanala uygulanabilir, uygulanacak hacmin şekli önemli değildir ve kanalı sızdırmaz biçimde sıvamak için gerekli her şey FST™ Mastik kiti ile birlikte sevk edilir.

## Polywater<sup>®</sup> J - High Performance Lubricant • Polywater<sup>®</sup> J - Kablo Çekme Sabunu

### TECHNICAL SPECIFICATION

#### Description

Polywater<sup>®</sup> Lubricant J is a high-performance cable pulling lubricant proven in the installation of millions of feet (meters) of cable over the last 20 years. Lubricant J provides excellent tension reduction in underground and industrial cable pulls. It is recommended for both communications and electrical cable. Polywater<sup>®</sup> J has excellent shear resistance for effective lubrication under high cable sidewall pressure in conduit bends.

The residue from Polywater<sup>®</sup> J does not propagate flame when used with fire-retardant cable systems. Lubricant J is slow drying. The residue is a thin, slippery film that retains its lubricity for months after use.

Its dried residue is non-conductive and noncombustible.

Polywater<sup>®</sup> Lubricant J is a stringy gel. It can be applied by hand or using Polywater's LP Pumps. It is also available in the unique Front End Pack™ pre-lubrication bags.

#### Friction Testing

**Lubricity:** Polywater<sup>®</sup> J Lubricant shows superior friction reduction on a variety of jacket types. Typical friction coefficients at 200 lbs/ft (2.91 kN/m) normal pressure are shown. Test results are based on the method described in the white paper, "Coefficient of Friction Measurement on Polywater's Friction Table, 2007" (polywater.com/FTable.pdf). Values are averages based on cable jacket and conduit materials from multiple manufacturers.

Cable Jacket	Conduit Type				
	HDPE	PVC	Steel	FRP	EMT
XLPE	.14	.11	.13	.16	.21
LLDPE	.10	.11	.16	.13	.13
PVC	.11	.11	.13	.16	.11
HDPE	.05	.09	.13	.13	.13

Coefficient of friction data on additional or specific cable jackets or conduits can be obtained from American Polywater Corporation.



#### Product Benefits

- Specification grade
- Excellent friction reduction
- High cling factor
- Non-combustible residue
- Clean and non-staining
- Temperature stable

#### End Use

Suitable for many types of cable installations, including:

- Heavy, underground installations
- Multiple-bend pulls
- Long pulls
- High conduit fill situations

#### Official Approvals

UL Approved  
CSA Listed

## Model Specification

The statement below may be inserted into a specific job specification to help maintain engineering standards and ensure project integrity.

The cable pulling lubricant shall be Polywater<sup>®</sup> J Lubricant. The lubricant shall be UL (or CSA) listed.

The lubricant shall contain **no** waxes, greases, silicones, or polyalkylene glycol oils. Lubricant manufacturer must provide cable manufacturer approvals upon request.

Cable jacket compatibility shall be tested by the IEEE 1210, Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable. It shall pass physical compatibility tests on LLDPE, XLPE, PVC and EPR cable jacket or sheath materials. It shall not stress crack polyethylene per ASTM Standard 1693. There shall be no significant changes in the conductive properties of XLPE and EPR semiconducting compounds when the lubricant's effect on volume resistivity is tested according to IEEE Standard 1210.

A 200-gram sample of the lubricant, when placed in a one-foot, split metal conduit and fully dried for 24 hours at 105 degrees C, shall not spread a flame more than three inches beyond a point of ignition at a continued heat flux of 40 kW / meter<sup>2</sup>. Total time of test shall be one-half hour.

## Order Information

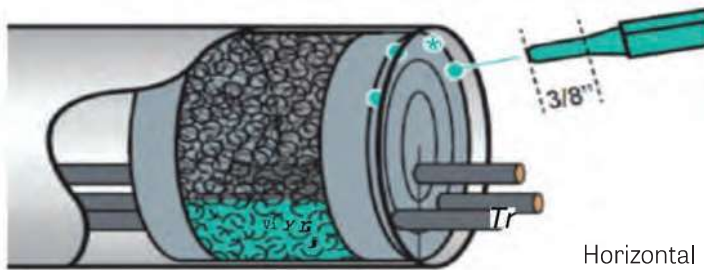
Cat #	Package Description
Regular	
J-35	1-quart squeeze bottle (0.95 liter)
J-128	1-gallon pail (3.78 liter)
J-640	5-gallon pail (18.9 liter)
J-27	1-quart bag (0.95 liter)
J-99	1-quart bag (0.95 liter) in a pail
J-55	½-gallon bag (1.9 liter)
J-110	½-gallon bag (1.9 liter) in a pail
J-Drum	55-gallon drum (208 liter)
Pourable	
PJ-128	1-gallon pail (3.78 liter)
PJ-320	2 ½-gallon jug (9.6 liter)
PJ-640	5-gallon pail (18.9 liter)
PJ-Drum	55-gallon drum (208 liter)
**Wintergrade version Polywater <sup>®</sup> PJ available (WPJ)	
Wintergrade	
WJ-35	1-quart squeeze bottle (0.95 liter),
WJ-55	½-gallon bag (1.9 liter)
WJ-110	½-gallon bag (1.9 Liter) in a pail
WJ-128	1-gallon pail (3.78 liter)
WJ-640	5-gallon pail (18.9 liter)
WJ-Drum	55-gallon drum (208 liter)

Polywater<sup>®</sup> Lubricant J, yüksek performanslı bir kablo çekme sabundur. Polywater<sup>®</sup> J, yer altı ve endüstriyel kablo çekmelerinde sürtünmeyi azaltır. Hem iletişim hem de elektrik kablosu için kullanılır.

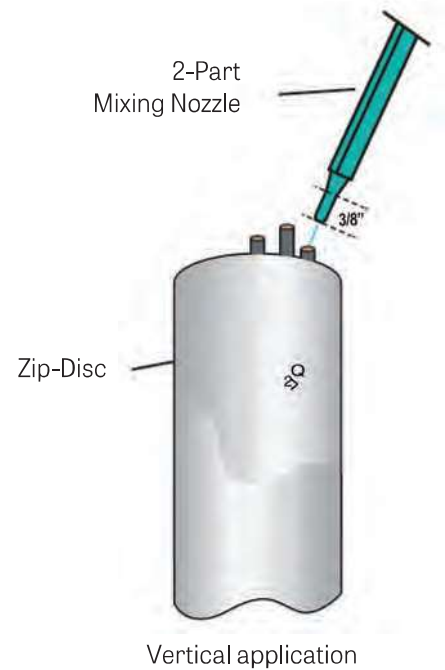
Polywater<sup>®</sup> J, boru dönüşlerinde kablo izolasyonunun sürtünme nedeniyle zarar görmesini önler. Polywater<sup>®</sup> J'nin kablo çekimi sonrası kablo üzerinde kalan kalıntıları alev iletmez özelliktedir ve benzer özellikteki kablolarla rahatlıkla kullanılabilir. Polywater<sup>®</sup> J, kullanıldıktan aylarca sonra dahi kayganlığı korur. Kurumuş artık kalıntısı iletken ve yanıcı değildir.

## Polywater<sup>®</sup> ZipSeal™ Duct Sealant

ZipSeal™ Duct Sealant is a practical and efficient way to seal innerducts and conduits. The revolutionary Zip-Disc insert and unique two-part foam sealant installs quickly and effectively. This innovative design allows for horizontal and vertical installation with minimal drippage. The foam can be removed in just minutes. ZipSeal can hold up to 10 feet of water-head pressure.



Horizontal application



Vertical application

Cat. No.	Package Components	Case Qty
<b>ZIP-50KIT1</b>	150mL two-part foam sealant cartridge w/ resealing cap, 2 static mixing nozzles, 2 pairs disposable gloves 5 2" Zip-Discs	1
<b>ZIP-50KIT1G</b>	ZIP-50KIT1 w/ dispensing tool	1
<b>ZIP-50KITB6</b>	6 ZIP-50KIT1	6
<b>TOOL-50-11</b>	Dispensing tool	1
<b>MXR-20T-10</b>	Mixing nozzles	10

- Seals out Water, Sewer Gases, and Rodents From Conduits
- Installs in 45 Seconds
- Easy to Re-Enter
- Holds up to 10' of Water-Head Pressure
- One Kit Seals Five 2" (50mm) Conduits Compatible with Cables and Conduits







**NELSON**

**FIRE  
STOP  
PRODUCTS**





In a battle against fire, every second counts. That's especially true if openings exist between adjacent rooms or floors within a building, such as those made to accommodate pipe, conduit, ducts and cables. Such pathways for voice, data, video, power, plumbing and ventilation can quickly become pathways for fire.

The good news is, it doesn't take much to inhibit the spread of fire before it begins. For approximately 1/100th of the cost of constructing a building, you can install a building-wide Nelson Firestop Systems. Should a fire ever break out, that small investment will help contain it. The spreading that could occur in minutes will be delayed for hours giving fire-fighting personnel the critical time they need to extinguish the blaze, avert devastation and, in some cases, save lives.

That's what firestopping should do. What it will do, however, depends on whether or not you have the right products in the right places. No one ever intentionally creates a poor firestop installation, but the selection process frequently yields an incorrect seal.

### Solving a complex problem.

Making the right firestopping choice for a wall or floor penetration is not a simple matter. There is far more to the decision than the size of the hole. Establishing a reliable firestop seal depends on no less than eleven criteria:

- Type of barrier being penetrated (wall or floor)
- Thickness of barrier
- Barrier construction (masonry or gypsum)
- Fire rating of barrier (1, 2, 3 or 4-hour)
- Type of penetrating item (pipe, cable, conduit, etc.)
- Construction of penetrating item (plastic, steel, copper, etc.)
- Size of penetrating item, and how many of each
- Type and thickness of insulation (if any)
- Shape of opening
- Size of opening
- Annular space between penetrating item and inside wall of penetration

### Composite Sheets and Inserts • Yangına Dayanımlı Plaka

Nelson Firestop composite sheets are used to seal penetrations and maintain the rating of fire rated floors or walls. Suited for cable tray penetrations, large floor or wall openings, and other cable systems they are available in a variety of sizes.



### Firestop Coatings and Compounds Yangına Dayanımlı Harç

Nelson Firestop FSC cable coating, FSC3 joint coating and CMP compound are all used to provide a fire protective coating for cables, floor and other areas needing sealing.



### Firestop FSP Putty • Yangına Dayanımlı Macun

Nelson Firestop Putty (FSP) is easy to install putty that inhibits the passage of smoke and flame through penetrations and joints.



### Firestop Mineral Wool • Yangına Dayanımlı Mineral Yün

Nelson Firestop mineral wool is used in many Firestop Systems in conjunction with various Firestop Sealants to assure the integrity of the fire rated seal against the spread of fire, smoke and gasses.



### Firestop Sealants • Yangına Dayanımlı Mastik

Nelson Firestop provides silicone, elastometric and latex sealants for protecting against the spread of fire, smoke, gases and water



### MCT Multi-Cable Transit Systems Kablo Geçiş Sistemleri

Nelson Firestop MCT multi-cable transit system is a mechanical cable and pipe sealing system for use in commercial building wall floor penetrations and in marine bulkhead and deck applications. Provides protection from fire smoke water and blast pressures.



### MPS Multi-Plug System • Kablo / Boru Sargıları

Nelson Firestop MPS multi-plug system is a fire rated, environmental cable sealing system with molded Tecron rubber plugs for use in pipe sleeves or cast round openings. provides protection from fire, smoke, water and blast pressures.



### Pipe Choke and Wrap Systems • Boru Kelepçe Sistemleri

Nelson Firestop pipe choke system (PCS) is designed to expand to seal voids created from fire exposure to penetrations of combustible pipes. It maintains the rating of fire rated floors and walls.



### PLW Pillows & Fire Bricks Yangına Dayanımlı Tuğla/Yastık

Nelson Firestop PLW pillows and fire bricks are used for cable, cable tray and other penetrations or for temporary firestop closures by preventing the penetration of fire

