



WRS3™ Wrap Strip

Technical Data

➤ Product Description

Nelson Wrap Strip (WRS3™) is a highly intumescent firestop wrap system. When exposed to fire, the wrap strip expands and forms a hard char to seal off the penetrating item and preventing the passage of fire and hot gasses.

➤ Application

Nelson WRS3™ is designed for combustible pipe and insulated pipe through stop penetrations in fire rated floors and walls. WRS3™ is easily installed by following the appropriate firestop system design detail. The Wrap Strip is cut to length to fit the circumference of the pipe. Depending on the system requirements, additional layers may be required and will be cut to fit over previous layer. A metal restraining collar is available where required which is a mechanical device designed to hold the wrap strip in place. Restraining collar is easily cut to fit and no special skills or tools are required to install.

➤ Availability

AA0896 – 1" x ¼" x 12' roll (25.4mm x 6mm x 3.65m)
AA0897 – 1½" x ¼" x 12' roll (38mm x 6mm x 3.65m)
AA0659D - 1" to 1½" x 25' Restraining Collar
(25.4mm to 38mm x 7.62m)

➤ Approvals

Underwriters Laboratories Inc., Fill, Void or Cavity Material (XHHW)
City of New York, New York, Department of Buildings
• MEA 128-04-M

➤ Features

- Up to 3-Hour Rating
- Ease of installation
- Highly Intumescent
- Excellent Freeze-Thaw
- Asbestos Free
- Solvent Free
- No hazardous ingredients
- Cost Effective
- Water Resistant

➤ Physical Properties

- Color.....Red
- Intumescent Expansion Activation – 250°F (121°C)
- Service Temperature 40°F (4°C) and 90°F (32°C).

➤ Test Compliance

- ASTM E814 (UL1479)

➤ Testing Data

For specific test criteria, refer to the UL Fire Resistance Directory.

➤ Storage & Handling

Nelson WRS3™ should be stored between temperatures of 40°F (4°C) and 90°F (32°C).

➤ Related References

Underwriters Laboratories Inc. "Fire Resistance Directory". Application details are available in AutoCAD® format on request.



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➤ INSTALLATION INSTRUCTIONS

GENERAL: Areas to be protected must be clean and free of oil, loose dirt or rust. Installation temperatures must be 40°F (4°C) and above.

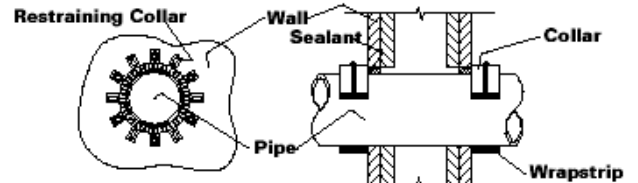
APPLICATION SYSTEM SELECTION: Selection of an appropriate firestop system design is critical to the fire protection process. Please consult the Nelson Firestop directory and application guide as well as the UL®Fire Resistance Directory for additional information.

WRAPSTRIP: Nom 1/4" thick intumescent material faced on both sides with a plastic film, supplied in 1" or 1-1/2" wide strips. The layers of wrapstrips are individually wrapped around the through penetrant with ends butted and held in place with masking tape. Butted ends in successive layers shall be offset. The edge of the wrapstrip shall abut the surface of the wall or floor. The layers of wrapstrips are installed on each side of the gypsum or concrete wall or bottom side of the concrete floor. The number of layers and width of wrapstrip is dependent on the diameter of the through-penetrant and annular space within the firestop system.

FILL MATERIAL: Nelson Firestop Sealant (LBS3™) ranging from 1/4" thickness to 3/4" thickness is applied within the annulus, flush with top surface of the floor or with both surfaces of the wall. Please refer to the UL® Fire Resistance Directory for the appropriate thickness.

STEEL COLLAR: Collar fabricated from coils of precut 0.019 in. (No. 28 MSG) galvanized sheet steel by 1" deep and with min. five 1-1/4" wide by 2" long anchor tabs for securement to the concrete floor or wall. Min. four 1-1/4" wide by 2" long anchor tabs for securement to gypsum wall. Retainer tabs, 3/4" wide tapering down to 1/4" wide and located opposite the anchor tabs, are folded 90 degrees towards through-penetrant and to retain the wrapstrips. Steel collar wrapped around wrapstrips and through penetrant with a 1" wide overlap along its perimeter joint. Steel collar tightened around wrapstrips and through penetrant using min. 1/2" wide by 0.028in. thick stainless steel hose clamp installed at mid-height of the collar. Collar secured to concrete surface with 1/4" diameter by min. 2-1/4" long steel concrete anchors in conjunction with min. 1/4" by 1-1/4" diameter steel fender washers. Collar secured to gypsum wall with 1/8" diameter by min. 2-3/4" long steel molly bolts in conjunction with min. 1/4" by 1-1/4" diameter steel fender washers. Collars are installed on both sides of wall.

UL System No. W-L-2388 F Rating 1 or 2 Hr. T Rating 0, 1 or 1-1/2 Hr.



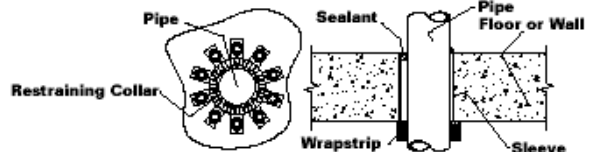
- **WALL ASSEMBLY** - Constructed in the manner specified in the U300 or U400 series designs as shown in the UL Fire Resistance Directory.
- **NONMETALLIC PIPE or CONDUIT** - Max. 4" nominal diameter, Sch. 40 PVC, ABS or RNC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Max. 4" diameter or smaller SDR13.5 CPVC pipe for use in closed piping systems. The annular space between pipe, conduit or tubing and periphery of opening shall be 0" (point of contact) to 1/2".
- **NELSON LBS3 SEALANT** - Apply LBS3 within the annular space to a min. 5/8" depth, flush with both wall surfaces. At point of contact, a min. 3/8" diameter bead of sealant shall be applied at the gypsum/pipe interface on both surfaces of wall.
- **NELSON WRS3 WRAPSTRIP** - Apply 1" wide WRS3 around the pipe on both sides of the wall in accordance with the schedule shown in the table below.

Pipe Type	Max. Pipe Size	Nos. of Layers	F Rating (Hr.)	T Rating (Hr.)
PVC/CPVC	4"	2	1	0
ABS	4"	2	1	1
RNC	4"	2	1	1
PVC/CPVC	3"	2	1	1
ABS	3"	2	1	1
RNC	3"	2	1	1
PVC/CPVC	2"	2	1	1
ABS	2"	2	1	1
RNC	2"	2	1	1
PVC/CPVC	1 1/2"	2	1	1
ABS	1 1/2"	2	1	1
RNC	1 1/2"	2	1	1

- **STEEL RESTRAINING COLLAR** - Apply nominal 28 gauge prefabricated galvanized steel collar around the wrapstrip. Overlap the collar and secure with 1/2" wide by 0.028" thick stainless steel hose clamp. Collar secured to the wall with 1/8" diameter by min. 2-3/4" long steel molly bolts in conjunction with 1/4" by 1-1/4" diameter steel fender washers.

DWG NO. FS-0632 R0

UL System No. C-AJ-2489 F Rating 2 or 3 Hr. T Rating 1-1/2 or 2 Hr.



- **FLOOR or WALL ASSEMBLY** - Min. 4-1/2" thick lightweight or normal weight concrete floor or wall or CMU block wall. Max. diameter of opening is 6".
- **METALLIC SLEEVE (optional)** - Nominal 5" steel sleeve.
- **NONMETALLIC PIPE** - Max. 5" diameter or smaller, Sch. 40 PVC, RNC or nominal 4" diameter or smaller Sch 40 ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. Max. 5" diam. or smaller SDR 13.5 CPVC pipe for use in closed piping systems.
- **NELSON LBS3 SEALANT** - Apply a min. 1/4" depth within the annular space, flush with top surface of floor or both surfaces of wall.
- **NELSON WRS3 WRAPSTRIP** - Apply 1/4" thick by 1-1/2" wide wrapstrip around the pipe to the underside of the floor or both sides of the wall in accordance with the table below.

Pipe Type	Max. Pipe Size	Annular Space (In.)	Nos. of Layers	Use of Sleeve	F Rating (Hr.)	T Rating (Hr.)
PVC/CPVC	5"	0"	2	Yes	2	1 1/2
ABS	5"	0"	2	Yes	2	1 1/2
RNC	5"	0"	2	Yes	2	1 1/2
PVC/CPVC	4"	0"	2	Yes	2	2
ABS	4"	0"	2	Yes	2	2
RNC	4"	0"	2	Yes	2	2
PVC/CPVC	3"	0"	2	Yes	2	2
ABS	3"	0"	2	Yes	2	2
RNC	3"	0"	2	Yes	2	2
PVC/CPVC	2"	0"	2	Yes	2	2
ABS	2"	0"	2	Yes	2	2
RNC	2"	0"	2	Yes	2	2

- **RESTRAINING COLLAR** - Apply min. 28 GA. galv. steel restraining collar around the wrapstrip. Attach the collar to the floor with min. 1/4" diameter x 2-1/4" long steel masonry anchors in conjunction with 1/4" x 1-1/4" diameter steel fender washers.

DWG NO. FS-0638 R1

EGISPRO CO.,LTD.

90/42 16Floor, Sathorn Thani Bldg, North Sathorn Rd., Silom Bangrak Bangkok 10500
Tel: (66)2-863-3200 Fax: (66)2-863-4955 www.egispro.com

