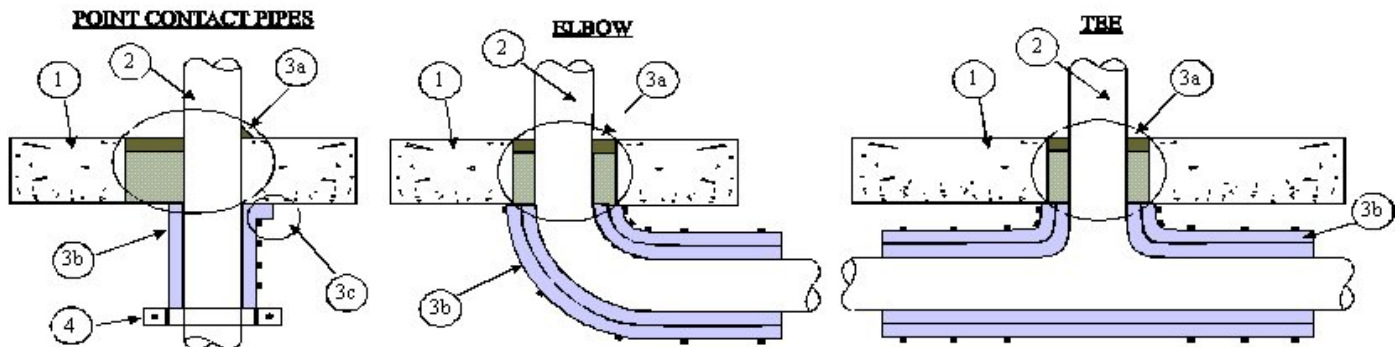


DESIGN NO. 3M/PHV 120-05
SINGLE & MULTIPLE PENETRATIONS, HORIZONTAL OR VERTICAL (FLOOR/CEILING
AND WALLS)
TEST PRESSURE DIFFERENTIAL - 2.5 Pa (0.01" OF WATER)

Penetrant	Pipe Size Diameter	Length Wrapped	Seams	Layers	CAN/ULC-S115		ASTM-E814	
					F, FH	FT, FTH	F	T
Steel	4"	30"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
Steel	4"	30"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr
Cast Iron	4"	30"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
Cast Iron	4"	30"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr
EMT/RSC	4"	30"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
EMT/RSC	4"	30"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr
Copper	4"	36"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
Copper	4"	36"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr
Steel	Over 4" to 8"	36"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
Steel	Over 4" to 8"	36"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr
Cast Iron	Over 4" to 8"	36"	Overlap 3"	1	2 Hr	1 Hr	2 Hr	1 Hr
Cast Iron	Over 4" to 8"	36"	Butt	2	2 Hr	2 Hr	2 Hr	2 Hr



- 1. Floor or Wall Assembly:** Code conforming 1 hour or 2 hour rated floor or wall assembly, nominal 2-1/2" thick, normal or low density cast concrete, or hollow core concrete and block walls. F rating will equal that of floor or wall fire resistance rating.
- 2. Penetrant:** (See table of ratings) Nominal 8" diameter or smaller, Steel (Schedule 10 & heavier) and Cast Iron pipes, nominal 4" diameter or smaller EMT, Rigid Steel Conduit and Copper Pipe or Tubing.
- 3. Firestop System Component:**
 - a) Firestop Design:** Installed a listed 3M Fire Protection products design to seal the penetrant. **Firestop Forming Material:** Substitute listed material with 4 pcf mineral wool, installed to the full thickness of the floor or wall. Apply the listed 3M™ sealant, caulk, putty or spray as detailed in the design.

	<p>b) *3M™ FireMaster® Duct Wrap is wrapped around the pipe to meet the application layers as detailed in the table. Seams and cut edges are sealed with aluminum foil tape. Secure with 1/2" wide stainless steel banding at 8" intervals, at the fire separation, within 1-1/2" on both sides of longitudinal butt seams and at the end of the wrapped pipe length.</p> <p>c) Point Contact Pipes: *3M™ Firemaster® Duct Wrap must be flared out onto the floor or wall substrate a minimum of 1".</p> <p>Wrap Methods:</p> <p>Single Layer: *3M™ FireMaster® Duct Wrap is wrapped around the pipe, transverse seams overlapped 3" longitudinal seams are butted together.</p> <p>Double Layer: *3M™ FireMaster® Duct Wrap is wrapped around the pipe with one layer forming a butt seam for transverse and longitudinal seams, secure with fiber reinforced tape or similar material. Second layer covers the first layer, with transverse and longitudinal butt seams, offset from those of the first layer.</p> <p>c) Point Contact Pipes: *3M™ FireMaster® Duct Wrap must be flared out onto the floor or wall substrate a minimum of 1".</p> <p>d) Floor Applications (Not Shown): Install the *3M™ FireMaster® Duct Wrap to the underside of the floor.</p> <p>Wall Applications: Install the *3M™ FireMaster® Duct Wrap to both sides of the wall.</p>
4.	<p>Riser Clamp: Vertical pipe, floor penetration applications that involve a wrapped (item 3b) pipe length that does not include an elbow or tee. To retain the material (Item 3b) in position against the underside of the floor (to prevent slippage or sag), a steel Riser Clamp is secured to the pipe at the end point of the material (Item 3b) wrapped length of pipe.</p>

Note: Metric conversion factor, inches x 25.4 = mm.

*Components bearing the Warnock Hersey Certification Mark.