

TECHNICAL BULLETIN

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Multi Layering (Nesting) ArmaFlex Insulations

It is important to install the proper insulation thickness required to prevent condensation, save energy, minimize heat loss or gain, and comply with local energy codes. There are cases when pipe insulation thickness must be greater than the available thickness. For these cases it will be necessary to multilayer or “nest” the insulation to obtain the desired thickness.

When installing a layered insulation system, the first layer should be installed with the joints and longitudinal seams under compression and properly sealed with ArmaFlex 520 adhesive. The first layer is installed with compression to allow for shrinkage once the system is turned on. Apply the second layer of ArmaFlex insulation with the longitudinal and end joints staggered, and properly sealed with ArmaFlex 520 adhesive.

The chart below displays which ArmaFlex insulation ID size fits over an initial layer of ArmaFlex with a given ID and wall size. To use the chart, first select the ID of the ArmaFlex insulation from the far left column and then the wall thickness under the “Nesting Size label. The intersection of the ID row with the wall thickness column is the ID size that will fit over the first layer. The wall thickness should be chosen to provide the total required thickness of the insulation system. Generally, the bottom layer should be the thickest insulation for ease of installation, but the installer may choose any combination of thickness that achieves the desired total.

For example, if a 2" iron pipe requires 3" of insulation and 2" thick insulation is chosen as the bottom layer, the ID for the top layer (from the chart) would be 6" IPS and the wall would be 1" (2" bottom layer + 1" top = 3" total).

Please be advised that there are some sizes that are too large to layer with pipe insulation. These sizes are indicated by “Sheet” on the nesting chart and sheet or roll insulation must be used for the top layer. Please also be aware that layering insulation above its maximum rated thickness for flame and smoke invalidates the flame and smoke ratings. Therefore, do not layer insulation above the rated thickness if a flame and smoke rating is required.

ArmaFlex Insulation Size	Fits Pipe Size (inch)			Nesting Size (inch)					
	Copper Nom Size & ID	Copper Nom Size & OD ACR	NPS	Nom 3/8" Wall	Nom 1/2" Wall	Nom 3/4" Wall	Nom 1" Wall	Nom 1- 1/2" Wall	Nom 2" Wall
			Iron, PVC, SS						
(in)	Types K,L,M								
1/4 ID	-	1/4	-	1-1/8 ID	1-3/8 ID	1-5/8 ID	1-1/2 IPS	—	—
3/8 ID	1/4	3/8	1/8	1-1/8 ID	1-3/8 ID	1-1/2 IPS	2-1/8 ID	3 IPS+	4 IPS
1/2 ID	3/8	1/2	1/4	1-3/8 ID	1-3/8 ID	1-1/2 IPS	2 IPS	3 IPS	4 IPS
5/8 ID	1/2	5/8	3/8	1-3/8 ID	1-5/8 ID	2-1/8 ID	2-5/8 ID	4 1/8+	5 IPS+
3/4 ID	5/8	3/4	-	1-5/8 ID	1-1/2 IPS	2 IPS	2-1/2 IPS+	4 1/8+	5 IPS+
7/8 ID	3/4	7/8	1/2	1-5/8 ID	1-1/2 IPS	2 IPS	2-1/2 IPS	4 1/8+	5 IPS+
1-1/8 ID	1	1-1/8	0.75	1-1/2 IPS	2-1/8 ID	2-1/2 IPS	3-5/8 ID	4 IPS+	5 IPS+
1-3/8 ID	1-1/4	1-3/8	1	2-1/8 ID	2 IPS	3-1/8 ID	4-1/8+ ID	4 IPS	5 IPS
1-5/8 ID	1-1/2	1-5/8	1-1/4	2 IPS	2-1/2 IPS	3-5/8 ID	4 1/8+	5 IPS+	6 IPS+
1-1/2 IPS	-	-	1-1/2	2-5/8 ID	3-1/8 ID	3-5/8 ID	4 IPS+	5 IPS+	6 IPS+
2-1/8 ID	2	2-1/8	-	2-1/2 IPS	3-5/8+ ID	4-1/8+ ID	4 IPS+	5 IPS+	6 IPS+
2 IPS	-	-	2	3-5/8 ID	3-5/8 ID	4-1/8 ID	5 IPS+	5 IPS	6 IPS
2-5/8 ID	2-1/2	2-5/8	-	3-5/8 ID	4-1/8+ ID	4 IPS+	5 IPS+	6 IPS+	8 IPS+
2-1/2 IPS	-	-	2-1/2	4-1/8+ ID	4-1/8 ID	4 IPS	5 IPS	6 IPS+	8 IPS+
3-1/8 ID	3	3-1/8	-	4 IPS+ ID	4 IPS+	5 IPS+	5 IPS	6 IPS+	8 IPS+
3 IPS	-	-	3	5 IPS+ ID	5 IPS+	5 IPS+	6 IPS+	8 IPS+	8 IPS+
	3-1/2	3-5/8	-	—	5 IPS+	5 IPS+	6 IPS+	8 IPS+	8 IPS+
4-1/8 ID	4	4-1/8	3-1/2	—	5 IPS+	6 IPS+	6 IPS	8 IPS+	8 IPS
4 IPS	-	-	4	—	6 IPS+	6 IPS	8 IPS+	8 IPS+	10 IPS+
5 IPS	-	-	5	—	8 IPS+	8 IPS+	8 IPS+	10 IPS+	10 IPS+
6 IPS	-	-	6	—	8 IPS+	8 IPS	10 IPS+	10 IPS+	Sheet
8 IPS	-	-	8	—	10 IPS+	10 IPS	Sheet	Sheet	Sheet
10 IPS	-	-	10	—	—	—	Sheet	Sheet	Sheet

+ May require cutting to fit properly

For more information, please visit:
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