

PROTECTING K-FLEX PE INSULATION AT PIPE HANGERS

Hangers used to support horizontal pipes being insulated create an insulation application problem. If the hanger is attached directly to the pipe, the insulation will have to be installed over the hanger, making the insulation installation more time consuming and making it more difficult to properly seal the insulation on cold systems. The hanger rod will also create a thermal short, requiring some of the rod to be insulated as well.

If the hangers are installed around the insulation, the weight of the pipe is concentrated at the hangers and will compress the insulation on the pipe in that area if not supported properly. If the insulation is compressed, the thickness will be reduced and its insulation will not perform as expected. Maintaining the correct insulation thickness is especially critical on cold piping systems, where a reduction in design thickness could result in condensation.

K-Flex USA offers **K-Flex® 360 Insulated Pipe Supports** to prevent compression of the insulation for pipes supported using pipe hangers and/or saddles, making it the ideal solution to this insulation installation problem. The K-Flex® 360 is available for all pipe IDs and PE wall thicknesses*. The K-Flex® 360 features a 360 degree rigid polyurethane core, tongue-and-groove closure system, elastomeric bonding surface for the butt joints and an outer PVC jacket with “peel and stick” overlapping tab. The 360 degree polyurethane core allows the support to be positioned in any orientation and will provide adequate load bearing capacity. The tongue-and-groove closure system acts as an alignment guide, preventing insulation gaps and forming a positive locking barrier that prevents air from getting to the cold pipe. The PVC jacket provides a tough outer surface for clamping as well as a moisture barrier that fully covers the tongue-and-groove seams, eliminating any through seams. K-Flex® 360s can be clamped securely into a pipe hanger or centered in a saddle/sheet metal shield.

*There may be a slight difference in OD between the PE insulation and the K-Flex 360 Insulated Pipe Support. This slight difference will not affect performance.

An alternative method when using sheet metal or plastic shields/saddles is to use a support to distribute the load over the shield. Supports are typically short lengths of wood dowels or wood or calcium silicate blocks, which are the same thickness as the insulation and inserted into the insulation. The holes cut into the insulation for the dowels or blocks should be undersized to insure a tight fit. The support devices should be coated with contact adhesive prior to inserting in the holes. They should be inserted while the adhesive is still wet, then the outer surface should be coated with adhesive to form a vapor seal.

Larger pipes would require wood blocks approximately 1” x 3” x the insulation thickness. Contouring the blocks to the curvature of the pipe and the saddle or shield will provide even support. The hanger shields should be centered on the support device location. It may be necessary to use additional supports (dowels) placed along the curvature of the insulation (4 o’clock and 8 o’clock positions) to maintain the position of the pipe. Note that the use of wooden dowels or wooden or calcium silicate blocks will provide less R-value than the PE insulation that they displace.

Another option when using sheet metal or PVC shields/saddles is to compensate for the anticipated thickness loss in the insulation due to compression by sleeving an additional section of insulation on the shield, extending the extra thickness beyond the shield. This method is not recommended.

Note: On hot piping systems where condensation control is not a consideration, it is not necessary to provide additional support for pipes up to 2” when sheet metal or plastic shields/saddles are used.