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INSTALLING EAGLE LOC 900 RESTRAINED PRODUCTS IN COLD WEATHER

Cold temperatures add construction variables for all piping materials that should be considered. The Eagle Loc 900 restraint system employs a circumferential grip ring in the bell to engage the spigot of the next piece of PVC pipe. In wet and cold conditions there is a potential for the presence of ice on the spigot or inside the grip ring which may prevent the grip ring from 'biting' into the spigot. In addition, PVC pipe has a greater thermal expansion / contraction than the ductile iron grip rings and casings; therefore as temperatures drop, the pipe spigot will decrease in outside diameter at a greater rate than the ductile iron casing.

ASTM D2122 requires that the PVC pipe be conditioned at 73.4 before measuring to determine dimensions. As the temperature increase or decreases all materials will change dimensions because of thermal expansion and contraction. Assembled joints with traditional PVC pipe and fittings, the changes have little or no effect, as all aspects of the product change equally.

The ductile iron grip ring and casing of the Eagle Loc 900 restraint system do not react to changes in temperature as dramatically as PVC. As the temperature is reduced, the clearance between the grip ring and the spigot of the pipe increases. This increased clearance could result in grip rings that do not engage.

In cold conditions the surface tension or hardness of the PVC also increases; discouraging engagement of the grip ring and as stated earlier, moisture can freeze and form on the grip ring teeth and/or the spigot surface, also discouraging engagement.

As temperatures fall below 45 degrees Fahrenheit care should be taken to assure the spigot and gripping components are dry and free from moisture. The grip ring should be properly adjusted to fit inside the casing.

Cold weather installations of Eagle Loc 900 restrained products with open ditch type construction do not require the setting the joint, as the grip ring engagement is accomplished when the line is pressurized. When installing Eagle Loc 900 restrained pipe by the horizontal directional drilling method, the joint needs to be set above ground as recommended in JM Eagle's *Horizontal Directional Drilling Installation Using Eagle Loc 900- Technical Bulletin*. The setting of the joint in cold weather is critical and more force than normal should be used to confirm engagements.