

## UNDERGROUND APPLICATIONS OF K-FLEX ELASTOMERIC INSULATION

Whenever a flexible closed cell elastomeric insulation material is used in a burial type application, there are two main concerns. First is the problem of long-term water absorption due to poor drainage in the area and second is compression of the insulation due to compaction of the surrounding area. It is difficult to give general recommendations since each application can be considerably different because of the application conditions.

For buried lines **above the water table**, use a clean fill such as sand (6" layer) to protect the insulation and provide good drainage before backfilling. It is recommended that insulation to be buried is properly sealed at all seams and butt joints with an approved contact adhesive to prevent contaminated ground water from penetrating to the pipe surface. For optimum performance, the lines should be encased in a conduit, such as PVC pipe, concrete or equivalent, to protect them from problems associated with ground water and compaction.

It is a common practice to increase the required wall thickness by one size to help compensate for compaction, i.e. 1/2" to 3/4" wall. When insulation with pressure sensitive adhesive (psa) seams is directly buried, it is recommended that the maximum operating temperature be reduced to 160°F or 180°F for double seal (DS) systems due to stress put on the seams due to compaction.

**For buried lines below the water table, the insulation must be encased in a conduit to prevent the degrading effects of long term water penetration.**

In most applications, good drainage and no compaction can be met with reasonable precautions during the installation. The use of insulation in a below ground application will not only provide insulation value, but will also provide some protection of the pipe from acid soils and abrasion from stones or rocks.

As long as the needs for proper drainage and compaction compensation are met, closed cell flexible elastomeric insulation will provide good long-term service in a burial type application.