



## NON-SHIELDING COATINGS

**Polyguard Products** believes that everyone concerned with the selection, specification, installation, and use of corrosion control coatings on underground pipelines should understand non-shielding coatings.

Most people know that underground pipelines use cathodic protection systems (CP) as part of the corrosion prevention package. In almost all cases, the CP system is designed to act as a backup corrosion protection system. The coating system is the primary corrosion control system, and the CP system is designed to begin work whenever and wherever there is a failure or defect in the coating system.

What many do not understand is that most coatings used around the world today have properties of electrical resistance which, when coating adhesion is lost and water penetrates, can block or shield cathodic protection currents. In other words, if the coating disbonds from the pipe, the cathodic protection current may not be able to reach the pipe surface has effectively been disabled.

It follows that a non shielding coating is one that, in the event there is a defect or failure area where water has penetrated between the pipe and coating, will allow the passage of protective electrical currents, and therefore will permit the CP system to keep the pipeline safe.

This section, which is a printout of materials found on the **Polyguard Products** pipeline coatings website, explains the fail/safe concept in more detail. Included are:

- Background information
- NACE definition of shielding
- NACE Standard Recommended Practice (RP0169) concerning shielding
- NACE training course which covers shielding
- Shielding behavior of corrosion control coating materials:
  - a. FBE
  - b. Shrink Sleeves
  - c. **Polyguard RD-6®**
  - d. 2 and 3 layer Systems
  - e. Liquid Coatings
  - f. Polyethylene Backed Tapes

If you read this information and need more detail, further information can be found on the website at [www.corrosioncoatings.com](http://www.corrosioncoatings.com).