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STATEMENT U
PPI POSITION STATEMENT ON USE
OF PCR MATERIALS IN POLYETHYLENE PIPE

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Polyethylene piping is extensively used for a wide variety of applications from gas distribution through drainage. Equally diverse are the performance requirements for these varied applications. Rigorous, critical applications require specialized, high performance resins produced in strict accordance with recognized industry standards (i.e., ASTM), while less demanding applications may use a broader range of materials.

A few years ago, attention was focused on the potential for incorporating post consumer recycled (PCR) polyethylene materials in polyethylene piping as a means to further plastics recycling efforts. PPI supported that initiative in general, and established an ad-hoc committee of polyethylene pipe manufacturers, resin suppliers, researchers, and trade association representatives to develop means for the responsible use of post-consumer recycled polyethylene materials in polyethylene pipe. PCR materials recovered from short-term use products such as polyethylene bottles and packaging must be used with care so that the long-term durability of polyethylene piping is not compromised.

The PPI PCR Committee chose as its mission and objective to consider the responsible use of PCR in PE piping through consensus standards writing bodies. These bodies should define the performance requirements, material properties, and test criteria for the responsible use of post-consumer-recycled polyethylene resin for piping applications. PCR materials should not be used in polyethylene pipe until the standards bodies for the particular piping application have established these requirements and criteria.

The efforts of this PPI PCR Committee culminated in the application of a testing tool for polyethylene pipe materials. Drexel University research, funded by PPI and the American Plastics Council and directed by the PPI PCR Committee, resulted in our report, "A Stress Crack Resistance Method for Evaluation of Polyethylene Materials Intended for Pipe Applications" (published September 1997). This method, based on ASTM Test Method D 5397, is more sensitive than conventional environmental stress cracking tests, and more expedient than sustained pressure testing of pipe specimens. This work showed that the method could be used to characterize the stress-crack resistance of polyethylene, and of polyethylene blends that incorporate PCR materials. The Drexel report is available through PPI (888-314-6774).

The PPI PCR Committee supports continued work toward defining these performance requirements, material properties, and test criteria that will result in the responsible use of PCR materials in polyethylene pipe used for non-pressure applications. PCR materials should not be used for pressure piping materials listed in PPI TR-4. The Plastics Pipe Institute, its member companies, and the ad hoc members of the PPI PCR Committee support this continued work in the standards bodies.