
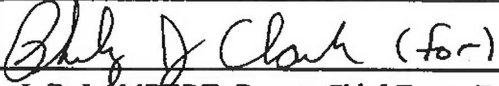


SUPERSEDED BY EI 95-055 EFFECTIVE 3/21/96		ENGINEERING INSTRUCTION	
		NEW YORK STATE DEPARTMENT OF TRANSPORTATION	
SUBJECT: DESIGN GUIDELINES FOR SMOOTH INTERIOR CORRUGATED POLYETHYLENE CULVERT AND STORM DRAIN PIPE, ITEM 18603.9801XX		Subject Code: 7.26-2-8	
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APPROVED:  J. R. LAMBERT, Deputy Chief Engr., Fac. Design Div.		Date: 10/18/93 Supersedes:	

The designer should consider the following points when considering an application for smooth interior corrugated polyethylene pipe.

1. The pipe should be designed using a Manning "n" value of 0.013.
2. Maximum height of cover is 15 feet.
3. The minimum cover height is 12" from the pipe's crown to the top of subgrade. When shallow covers in confined construction areas result, a significant cost increase for the PE pipe may result because of additional intermediate tasks required of the contractor to protect the PE pipe from damage. Precautions could include the installation of additional temporary backfill, installation of steel plates to bridge a shallow trench, etc. The designer should consider the use of optional pipe material specifications if these conditions are anticipated to allow the contractor flexibility to account for these variables.
4. The anticipated service life of PE pipe is 70 years, regardless of zone.
5. Partial height headwalls will require a special anchor bolt detail on the plans. Use the detail given in EI 83-42 but add a 1 5/16" washer. Ordinary Hex nuts can be used.
6. The product may be used in both open and closed drainage systems.
7. Polyethylene pipe has the potential to burn. However, the risk of burning has been determined to be very low. The designer should consider less flammable materials at locations where the risk is expected to be high.
8. The density of polyethylene pipe is less than water, therefore when wet conditions are expected and dewatering may be a problem, polyethylene pipe will float and should not be specified.

If you have any questions regarding this Engineering Instruction, contact John Haviland (518-457-7283) of the Design Quality Assurance Bureau, or Mike Brinkman (518-457-5956) of the Materials Bureau.