



Saturday, January 11, 2003

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2-1 OVERVIEW OF STRUCTURAL CONSIDERATIONS



All pipe, whether flexible or rigid, rely heavily on the backfill structure to transfer loads into the bedding. Pipe must be installed as designed to perform as expected.

This section sets forth the design methodology for corrugated polyethylene pipe. Section properties for Hancor corrugated polyethylene pipe are presented. Material properties, backfill criteria, and load conditions also factor into the procedure. The design procedure evaluates wall thrust, deflection, buckling, bending stress, and bending strain and establishes limits on each condition. The procedure yields conservative results and can be used on many types of flexible pipe.

Tables showing minimum cover in trafficked installations and maximum cover heights under a variety of backfill conditions are shown in Tables 2-8, 2-9, and 2-10, respectively. With very high quality backfill, cover heights can be in excess of 40' (12m); however, Hancor should be contacted in these applications for a review of the installation and backfill procedure.

Corrugated polyethylene pipe performance has been heavily researched through the laboratory and the field. Much of this work documents the conservatism of this design procedure. Several of the research projects are briefly discussed at the end of this section. These and other materials are available through Hancor.

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