

PACIFIC

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Doshion
Translating Source Into Resource

Long term design pressure test.

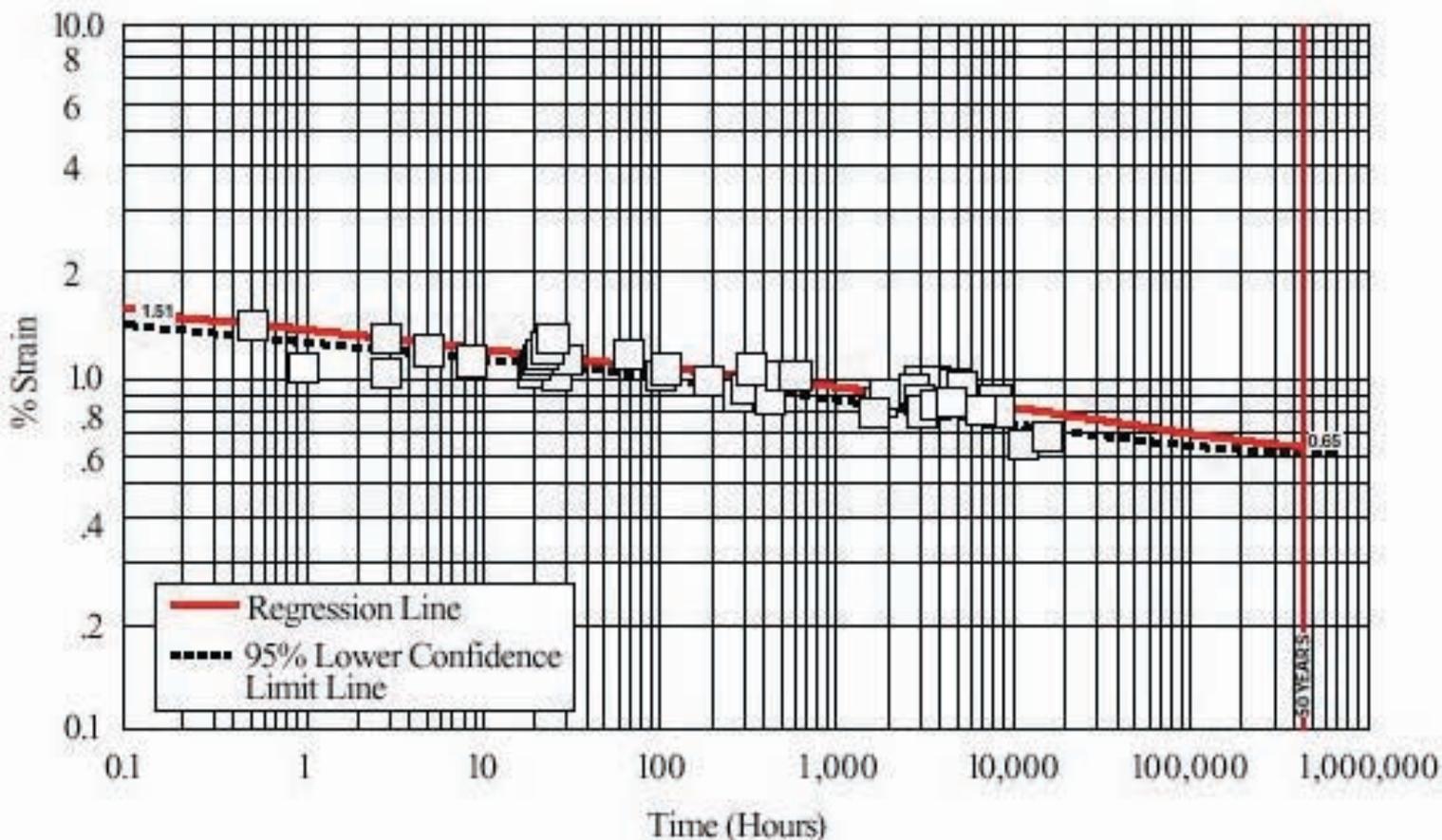
The hydrostatic design basis (HDB) of Pacific Pipes has been determined by conducting a long-term series of pressure regression tests following the guidelines of ASTM D2992-96 "Obtaining Hydrostatic or Pressure Design Basis for 'Fiber Glass' (Glass-Fiber-Reinforced Thermosetting- Resin) Pipe and Fittings " Analysis of the test data by log-log least squares regression has established the long-term (50-year) hydrostatic design basis for GRP pipe as 0.65 % strain. The test results are used to establish the pressure versus time behavior.

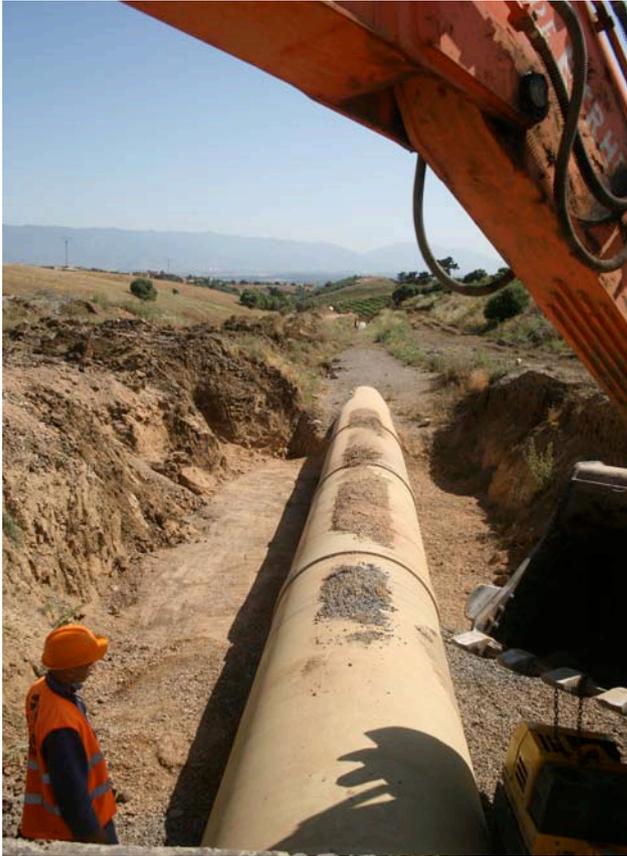
Test Procedure.

Long term design pressure test for GRP pipe is carried out in accordance with ASTM D2992. The salient features are:

- Requires a minimum of 18 nos. pipe specimen to constant internal hydrostatic pressure, at different pressure level.
- Time to failure is determined as the passage of the test fluid through the pipe wall.
- HDS is determined by a log-log graphical plot of initial hoop strain vs time to failure.
- Minimum Factor of Safety of 1.8 applied to 50-year value and hoop strain at 50-year is .0065 mm/mm.

Test results:





Pacific GRP Pipe Systems

GRP pipes have a history spanning more than 60 years and with well proven and tested standards. The most commonly used are AWWA, ASTM and ISO standards and those are also the base for the Indian BIS standards. In the early days, due to the higher cost of raw materials, GRP pipes had a disadvantage against metallic pipes but even in this situation, GRP pipes were the fastest growing pipe material in the world in market share. It was supplied at a premium price due to the benefits in corrosion resistance and long term performance. Since then the raw material cost ratio has changed to the advantage of GRP pipes over metallic pipes. Now we supply a superior product at a more competitive price than traditional pipe materials.

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