

AquaSpira Pipe - Design Life

AquaSpira pipe is a composite pipe which uses the advantages of both HDPE and Steel to produce a light weight durable large diameter pipe range for the construction industry. The pipe is constructed by encapsulating steel reinforcement within a high density polyethylene profile. By encapsulating steel reinforcement, corrosion and rust do not occur because the steel is not exposed to moisture, air or corrosive materials that can be found on construction sites or on landfill sites. HDPE has a proven track record within the solid wall pressure pipe industry, providing life expectancy estimates of 50+years¹. Due to the less vigorous demands, AquaSpira pipe can be extrapolated to 120+ years.

Deterioration of the properties of HDPE as a result of oxidation has been shown not to occur for a period of 570 years at normal temperatures (temperatures below 35C / 95F).

The chemical and abrasion resistance of HDPE has been well documented. Figure 1 show the results of the Darmstadt abrasion test demonstrating that HDPE provides the most superior abrasion resistance. For this reason HDPE is commonly used for highly abrasive applications such as slurry transport and the transport of mine tailings.

AquaSpira pipe has a uniform pipe composition creating the inner wall meaning that abrasion or chemical resistant coatings required are not required.

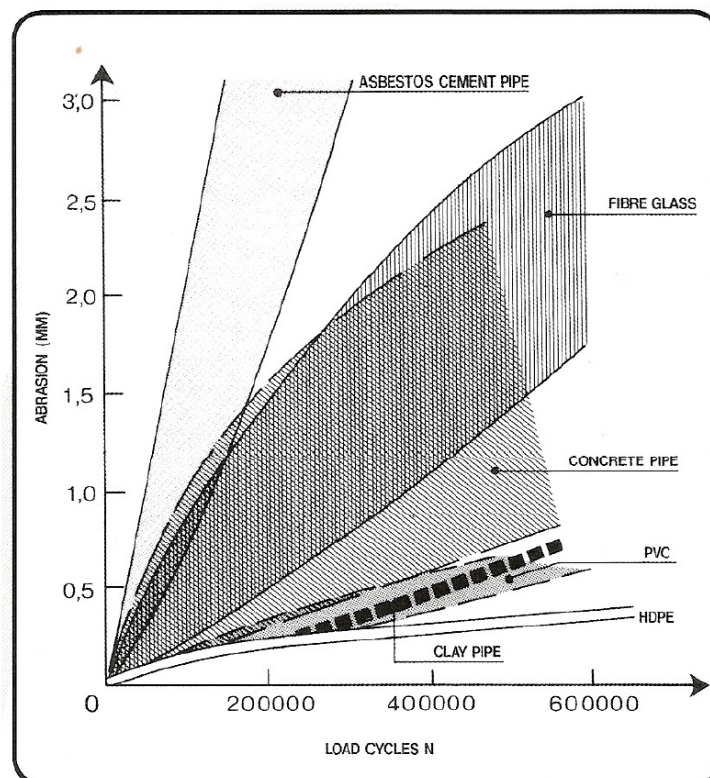


Fig 1: HDPE abrasion resistance, figure reproduced from Kirschmer, O. [1966]

References

Kirschmer, O. Problem of abrasion in pipes, Steinzeugin Pormationen, 1966, No. 1 pp3-13.

¹<http://www.teppfa.eu/utilities-overview/?rq=design%20life>