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DEPARTMENT OF THE ARMY  
U. S. Army Corps of Engineers  
Washington, DC 20314-1000

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Engineer Technical  
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Engineering and Design  
FIELD APPLICATIONS OF POLYETHYLENE PIPE IN DREDGING

1. Purpose. The purpose of this ETL is to present recent experimental data on the abrasion resistance of polyethylene pipe used in a dredging situation along with recently collected information on a variety of field applications. The laboratory investigation was conducted at the U. S. Army Engineer Waterways Experiment Station, Hydraulics Laboratory, by D. R. Richards, V. R. Pankow, and M. P. Alexander.
2. Applicability. This letter is applicable to all divisions and districts having responsibility for monitoring or performing dredging operations.
3. Discussion. This ETL discusses the results of laboratory tests comparing the abrasion resistance of high density polyethylene (HDPE) pipe with conventional mild steel pipe as reported at the ASCE Dredging Conference 1984. A third material, ultra high molecular weight high density polyethylene was also tested. The results indicate that under the test conditions HDPE outperforms mild steel significantly in wear characteristics. Comparisons between the performance of different types of HDPE suggested that higher molecular weight materials provide better resistance to abrasion. Conversations with users of HDPE pipe confirmed the laboratory results and resulted in the development of practical field application guidelines.

FOR THE COMMANDER:

Encl

  
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