

Standard Test Method

Evaluating the Compatibility of FRP Pipe and Tubulars with Oilfield Environments

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Revised 2015-03-14
Reaffirmed 2003-09-12
Approved 1998-03-27
NACE International
15835 Park Ten Place
Houston, Texas 77084-5145
+1 281-228-6200

ISBN 1-57590-061-0
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Foreword

This standard test method is intended to serve as a guide in the process of evaluating fiber-reinforced plastic (FRP) pipe and tubulars for use in oilfield applications. This standard provides a means to evaluate the relative resistance of most FRP tubular products to specific oilfield environments by comparison of apparent tensile strength before and after exposure. Alternatively, four-point bending strength may be considered to conduct the comparison evaluation. This standard is intended to be used by polymer manufacturers, processors, equipment manufacturers, operating companies, or others who desire to compare the resistance of various FRP tubular products to specific oilfield environments. The test methodologies for the determination of apparent tensile strength are similar to those given in ASTM⁽¹⁾ D2290.¹ The test methodologies for the determination of the flexural properties by four-point bending are similar to those given in ASTM D6272² (Appendix A [Nonmandatory]). If specified test conditions and procedures are followed, data from separate laboratories that use this test method may be compared. The task group knows of no technical organization that has issued a comparable standard test method for materials in oilfield applications.

This standard was originally prepared in 1998 by NACE Task Group T-1G-24 on FRP Pipe and Tubulars in Oilfield Service. It was reaffirmed in 2003 by Specific Technology Group (STG) 33 on Oil and Gas Production—Nonmetallics and Wear Coatings (Metallic), and revised in 2015 by Task Group (TG) 484—Review and Revise as Necessary TM0298. This standard is issued by NACE International under the auspices of STG 33.

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⁽¹⁾ ASTM International (ASTM), 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.

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