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Petroleum, petrochemical and natural gas industries — Test methods for quality control of microstructure of ferritic/austenitic (duplex) stainless steels

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Preface

This Standard was prepared by the Standards Australia Committee ME-092, Materials, equipment, structures and related services for petroleum, petrochemical and natural gas industries.

The objective of this document is to specify quality control testing methods and test conditions for the characterization of microstructure in relation to relevant properties in ferritic/austenitic (duplex) stainless steel components supplied in the solution annealed condition and fabrication welds in the as welded condition.

This document supplements the relevant product and fabrication standards with respect to destructive testing methods including sampling of test specimens, test conditions and test acceptance criteria to show freedom from deleterious intermetallic phases and precipitates in duplex stainless steels. In addition, this document specifies the documentation of testing and test results by the testing laboratory.

This document is based upon experience with duplex stainless steels in offshore oil and gas industry applications including topside and subsea hydrocarbon service, sea water service, as well as structural use.

The austenite spacing is relevant to the susceptibility of duplex stainless steels to hydrogen induced stress crac [illegible] side the scope of this document.

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