



# Petroleum and natural gas industries — Materials for use in H<sub>2</sub>S-containing environments in oil and gas production

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**Part 1: General principles for selection of cracking-resistant materials  
(ISO 15156-1:2020, MOD)**



AS 15156.1:2022

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- Australian Industry Group
- Australian Organisation for Quality
- Australian Petroleum Production and Exploration Association
- Australian Pipelines and Gas Association
- Department for Energy and Mining, SA
- Department of Mines, Industry Regulation and Safety WA
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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 provide general principles, requirements and recommendations for the selection and qualification of metallic materials for service in equipment used in oil and gas production and in natural-gas sweetening plants in H<sub>2</sub>S-containing environments. It can be applied to help to avoid costly corrosion damage to the equipment itself.

This document addresses all mechanisms of cracking that can be caused by H<sub>2</sub>S, including sulfide stress cracking, stress corrosion cracking, hydrogen-induced cracking and stepwise cracking, stress-oriented hydrogen-induced cracking, soft zone cracking, and galvanically induced hydrogen stress cracking.

This document applies to the qualification and selection of materials for equipment designed and constructed using load controlled design methods. Table 1 provides a non-exhaustive list of equipment to which this document is applicable, including exclusions.

This document is not applicable to equipment used in refining or downstream processes and equipment. It supplements ~~but does not replace the materials requirements given in the appropriate design codes,~~ standards,

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This document is an adoption with national modifications, and has been reproduced from, ISO 15156-1:2020, *Petroleum and natural gas industries — Materials for use in H<sub>2</sub>S-containing environments in oil and gas production — Part 1: General principles for selection of cracking-resistant materials*. The modifications are additional requirements and are set out in [Appendix ZZ](#), which has been added at the end of the source text.

[Appendix ZZ](#) lists the modifications to ISO 15156-1:2020, for the application of this document in Australia.

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