

DIN EN ISO 15156-2:2025-02 (E)

Petroleum and natural gas industries - Materials for use in H₂S-containing environments in oil and gas production - Part 2: Cracking-resistant carbon and low-alloy steels, and the use of cast irons (ISO 15156-2:2020)

Contents	Page
European foreword.....	3
Foreword.....	4
Introduction.....	5
1 Scope.....	6
2 Normative references.....	7
3 Terms and definitions.....	8
4 Symbols and abbreviated terms.....	11
5 Purchasing information.....	12
6 Factors affecting the behaviour of carbon and low alloy steels in H₂S-containing environments.....	12
7 Qualification and selection of carbon and low-alloy steels with resistance to SSC, SOHIC and SZC.....	13
7.1 Option 1 — Selection of SSC-resistant steels (and cast irons) using A.2	13
7.1.1 For $p_{\text{H}_2\text{S}} < 0,3$ kPa (0,05 psi).....	13
7.1.2 For $p_{\text{H}_2\text{S}} \geq 0,3$ kPa (0,05 psi).....	13
7.2 Option 2 — Selection of steels for specific sour-service applications or for ranges of sour service.....	13
7.2.1 Sulfide stress cracking.....	13
7.2.2 SOHIC and SZC.....	15
7.3 Hardness requirements.....	15
7.3.1 General.....	15
7.3.2 Parent metals.....	15
7.3.3 Welds.....	16
7.4 Other fabrication methods.....	21
8 Evaluation of carbon and low alloy steels for their resistance to HIC/SWC.....	21
9 Marking, labelling, and documentation.....	22
Annex A (normative) SSC-resistant carbon and low alloy steels (and requirements and recommendations for the use of cast irons).....	23
Annex B (normative) Qualification of carbon and low-alloy steels for H₂S service by laboratory testing.....	32
Annex C (informative) Determination of H₂S partial pressure and use of alternative parameters.....	40
Annex D (informative) Recommendations for determining pH.....	45
Annex E (informative) Information that should be supplied for material purchasing.....	50
Bibliography.....	52