CRA Line Pipe

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Foreword

This edition of API Specification 5LC supersedes the Third Edition and includes items approved by letter ballot through January 2014. Portions of this publication have been changed from the previous edition. Substantive changes are indicated with gray shading and blue font, but API makes no warranty as to the accuracy of such notations. Nonsubstantive changes will not be indicated with shading and colored font.

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— the term “may” is used to express permission or a provision that is optional; and

— the term “can” is used to express possibility or capability.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001.

Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001, standards@api.org.

Suggestions for Ordering API CRA Line Pipe

In placing orders for line pipe to be manufactured in accordance with API Specification 5LC, the purchaser should specify the following on the purchase order:

- Specification ..... API Spec 5LC
- Quantity
- Grade ..... Tables 4 and 7
- Type of Pipe ..... Section 4.1 c)
- Size
  - Nominal Diameter:
    - Standard-weight Plain-end Pipe ..... Table 12
    - Extra-strong Plain-end Pipe ..... Table 12
    - Double-extra-strong Plain-end Pipe ..... Table 12
  - Outside Diameter:
    - Regular-weight Plain-end Pipe ..... Table 12
    - Special Plain-end Pipe ..... Table 12
  - Weight per Foot or Wall Thickness ..... Table 12
  - Nominal Length ..... Section 10.5
  - End Finish ..... Section 10
  - Delivery Date and Shipping Instructions

The purchaser should also state on the purchase order their requirements concerning the following stipulations, which are optional with the purchaser:

- Certificate of Compliance ..... Section 1.5
- Chemical Analysis Test Reports ..... Section 6.5
- Acceptance and Maximum Allowable Percent of Jointers ..... Section 10.7
- Alternative Bevel, Plain-end Pipe in Sizes
  - $2^{3}/_{8}$ in. OD and larger ..... Section 10.8
- Defect Repair Procedures ..... Sections 12.7, 12.8, 12.9
- Markings in Metric Units ..... Section 13.1 b)
- Purchaser Inspection ..... Annex G
- Monogram Marking * ..... Annex A, Section A.4

* Users of this specification should note that there is no longer a requirement for marking a product with the API monogram. The American Petroleum Institute continues to license use of the monogram on products covered by this specification but it is administered by the staff of the Institute separately from the specification. The policy describing licensing and use of the monogram is contained in Annex A. No other use of the monogram is permitted. Nonlicensees may mark products in conformance with Section 13 and licensees may mark products in conformance with Annex A or Section 13.

Attention is called to the following stipulations which are subject to agreement between the purchaser and the manufacturer:

- Chemical Composition ..... Section 6.1
- Intermediate Grades ..... Section 7.1, Table D.1
- Flattening Test Orientation ..... Section 7.9
- Intermediate Diameters ..... Section 10.2
- Intermediate Wall Thickness ..... Section 10.3
- Supplementary Requirements ..... Annex B
- Supplementary Hydrostatic Test ..... Section 9.4
- Hydrostatic Test Pressure ..... Section 9.3
- Lengths Applied to Carloads ..... Table 16
- Nonstandard Length and Length Tolerances ..... Section 10.5
- Repair of Welds of Electric-welded Pipe ..... Section 12.7 b)
- Marking Requirements ..... Sections 13.1, 13.4, 13.5

Contents

page

1 Scope 1
1.1 Coverage 1
1.2 Application of the API Monogram 1

2 Normative References 1

3 Terms, Definitions, and Abbreviations 2
3.1 Terms and Definitions 2
3.2 Abbreviations 3

4 General Information 3
4.1 Metric Units 3
4.2 Measuring Devices 4
4.3 Special Processes 4
4.4 Certification 4
4.5 Retention of Records 5

5 Process of Manufacture and Material 5
5.1 Process of Manufacture 5
5.2 Cold Expansion 7
5.3 Heat Treatment 8
5.4 Traceability 8
5.5 Hydrogen Sulfide Environments 8

6 Chemical Properties and Tests 8
6.1 Composition 8
6.2 Heat Analyses 8
6.3 Product Analyses 10
6.4 Recheck Analyses 10
6.5 Control Analyses 10
6.6 Chemical Analyses Procedures 10

7 Mechanical Properties and Tests 11
7.1 Tensile Tests—General 11
7.2 Tensile Testing 15
7.3 Longitudinal Tensile Tests 15
7.4 Transverse Tensile Tests 15
7.5 Weld Tensile Tests 16
7.6 Control Tensile Tests 16
7.7 Retests—Tensile Tests 16
7.8 Defective Specimens—Tensile Tests 16
7.9 Flattening Tests—Electric Weld 16
7.10 Acceptance Criteria—Flattening Tests 17
7.11 Retests—Flattening Tests 17
7.12 Flattening Tests—Seamless, Centrifugally Cast, and Welded Without Filler Metal 18
7.13 Weld With Filler Metal Manipulation Tests 19
7.14 Guided-Bend Test 19
7.15 Retests—Guided-bend Test 19
7.16 Weld Ductility Test for Electric-welded Pipe 20

7.17 Retests—Weld Ductility Test 22
7.18 Centrifugally Cast Homogeneity Test 22
7.19 Hardness Tests (LC52-1200) 24

8 Special Tests 24
8.1 Ferrite/Austenite Ratio for Duplex Stainless Steel 24
8.2 Intergranular Corrosion Test (Strauss Test) 25

9 Hydrostatic Tests 26
9.1 Inspection Hydrostatic Test 26
9.2 Verification of Test 26
9.3 Test Pressures 26
9.4 Supplementary Hydrostatic Tests 39

10 Dimensions, Weights, and Lengths 39
10.1 Dimensions and Weights 39
10.2 Diameter 40
10.3 Wall Thickness 40
10.4 Weight 41
10.5 Length 41
10.6 Straightness 41
10.7 Jointers 41
10.8 Pipe Ends 43

11 Nondestructive Inspection 44
11.1 Inspection Methods for Welded Pipe 44
11.2 Inspection Methods for Seamless Pipe 44
11.3 Inspection Methods for Centrifugally Cast Pipe 44
11.4 Radiological Inspection Equipment 44
11.5 Fluoroscopic Operator Qualification 44
11.6 Operator Certification 45
11.7 Reference Standard 45
11.8 ISO Wire Penetrameter 45
11.9 Frequency 46
11.10 Procedure for Evaluating In-Motion Operation of the Fluoroscope 46
11.11 Acceptance Limits 46
11.12 Imperfections 46
11.13 Defects 46
11.14 Weld Repair 49
11.15 Ultrasonic and Electromagnetic Inspection of Welded Pipe 49
11.16 Ultrasonic and Electromagnetic Inspection of Seamless Pipe 51
11.17 Ultrasonic Inspection of Centrifugally Cast Pipe 52

12 Workmanship, Visual Inspection, and Repair of Defects 52
12.1 Inspection Notice 52
12.2 Purchaser Inspection 53
12.3 Workmanship 53
12.4 Visual Inspection 54
12.5 Defects 54
12.6 Repair of Defects 55
12.7 Procedure for Repair of Weld Seams of Submerged Arc Welded Pipe 56
12.8 Procedure for Repair of Weld Seams of Electric-weld and Induction-welded Pipe 56

12.9 Procedure for Repair of Weld Seam of Gas Metal Arc Welded Pipe 56

13 Marking and Surface Treatment 57
13.1 Marking—General 57
13.2 Location of Markings 57
13.3 Sequence of Markings 57
13.4 Length 58
13.5 Die Stamping 59
13.6 Surface Treatment 59
13.7 Pipe Processor Markings 59

Annex A API Monogram Program, Use of the API Monogram by Licensees 60
Annex B Supplementary Requirement(s) 64
Annex C Repair Welding Procedure 65
Annex D Minimum Elongation Values 72
Annex E Guided-bend Test Jig Dimensions 75
Annex F Metric Tables 86
Annex G Purchaser Inspection 109

Figures

1 Orientation of Tensile Test Specimens 13
2 Tensile Test Specimens 14
3 Flattening Tests 17
4 Guided-bend Test Specimen 20
5 Jig for Guided-bend Test 21
6 Through-wall Hardness Test Locations 23
7 Location for Determination of Through-wall Ferrite/Austenite Ratio 24
8 Examples of Maximum Distribution Patterns of Indicated Circular Slag-inclusion-and Gas-pocket-type Discontinuities 47
9 Examples of Maximum Distribution Patterns of Indicated Elongated Slag-inclusion-type Discontinuities 49
10 Reference Standards 50
11 Reference Standard 51
C.1 Transverse Tensile Test Specimen 67
C.2 Tensile-elongation Test Specimen 68
C.3 Guided-bend Test Specimen 68
C.4 Jig for Guided-bend Test 69
C.5 Nick-break Test Specimen 70

Tables

1 Special Processes for Manufacturing Conditions 4
2 Retention of Records 5
3 Pipe Manufacturing Processes 7
4 Chemical Requirements for Heat Analyses, Percent (%) 9
5 Purchaser Provided Analysis 10

6 Permissible Variation for Product Analyses of CRA Line Pipe 11
7 Tensile Requirements 12
8 Frequency of Tensile Testing 15
9 Flattening Retests 18
10 Specimen Lot Test Lengths 22
11 Quadrant Hardness Readings 23
12 Plain-end Line Pipe Dimensions, Weights, and Test Pressures (See Annex F for Metric Tables) 27
13 Test Pressure for Size Ranges in All Grades 39
14 Correction Factors 40
15 Tolerance on Dimensions and Weights 42
16 Tolerances on Lengths 43
17 Taper Angle 43
18 ISO Wire Penetrameter (Sensitivity 2 %) 45
19 Elongated Slag-inclusion-type Discontinuities (See Figure 9) 48
20 Circular Slag-inclusion- and Gas-pocket-type Discontinuities (See Figure 9) 48
21 Acceptance Limits 51
22 Outside/Inside Weld Bead Height (Except ERW) 53
23 Electric-Welded Pipe Inside Flash Trim 54
24 Applicable Repair Procedure 55
C.1 Guided-bend Test Jig Dimensions (See Figure C.4) 69
D.1 Minimum Elongation Values 72
E.1 Guided-bend Test Jig Dimensions 75
F.1 Metric Dimensions, Weights, and Test Pressures 86

CRA Line Pipe

1 Scope

1.1 Coverage

This specification covers seamless, centrifugal cast, and welded alloy line pipe with improved corrosion resistant properties. The purpose of this specification is to provide standards for pipe with improved corrosion resistance suitable for use in conveying gas, water, and oil in both the oil and natural gas industries.

The size designations are nominal pipe sizes (NPS). In the text paragraphs herein, where pipe size limits (or size ranges) are given, these are outside diameter sizes except where stated to be nominal. These outside diameter size limits and ranges apply also to the corresponding nominal sizes. The primary product is beveled pipe. If plain-end square cut or other special end preparation is desired, this shall be subject to agreement between the purchaser and manufacturer. Included are NPS 1 in. through 42 in. Grades covered by this specification are LC30-1812, LC52-1200, LC65-2205, LC65-2506, LC30-2242, and LC80-2507 [1].

1.2 Application of the API Monogram

If product is manufactured at a facility licensed by API and it is intended to be supplied bearing the API Monogram, the requirements of Annex A apply.

2 Normative References

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. For a list of other documents and articles associated with this standard, please see the Bibliography. The following referenced documents, either referenced in full or in part, are indispensable for the application of this document.

API Specification 5L, *Specification for Line Pipe*

API Specification Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*

ANSI[2]/NACE[3] MR0175, *Petroleum and natural gas industries—Material for use in H_2S-containing environments in oil and gas production—Part 3: Cracking-resistant CRAs (corrosion-resistant alloys) and other alloys*

ASTM A262 [4], *Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels, Practice E*

ASTM A370, *Methods and Definitions for Mechanical Testing of Steel Products, Annex II—Steel Tubular Products*

ASTM A751, *Methods, Practices and Definitions for Chemical Analysis of Steel Products*

ASTM E4, *Practices for Load Verification of Testing Products*

ASTM E10, *Standard Method of Test for Brinell Hardness of Metallic Materials*

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[1] Seamless only.
[2] American National Standards Institute, 1899 L Street, NW, 11th Floor, Washington, DC 20036, www.ansi.org.
[3] NACE International, 1440 South Creek Drive, Houston, Texas 77084, www.nace.org.
[4] ASTM International, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428, www.astm.org.