



RULES FOR BUILDING AND CLASSING

STEEL FLOATING DRY DOCKS 2018

**American Bureau of Shipping
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the State of New York 1862**

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RULES FOR BUILDING AND CLASSING STEEL FLOATING DRY DOCKS

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Notices and General Information

Introduction

1. The year 2018 edition of the *Rules for Building and Classing Steel Floating Dry Docks* consists of the seven (7) booklets as shown in Table 1.
2. The numbering system applied in the Rules is shown in Table 2.
3. The primary changes from the 2009 edition of the Rules are identified and listed in Table 3. The effective date of the indicated Rule Changes is 1 January 2018, unless specifically indicated otherwise.
4. The effective date of each technical change is shown in parenthesis at the end of the subsection/paragraph titles within the text of each Part. Unless a particular date and month are shown, the years in parentheses refer to the following effective dates:

(2000) and after	1 January 2000 (and subsequent years)	(1995)	15 May 1995
(1999)	12 May 1999	(1994)	9 May 1994
(1998)	13 May 1998	(1993)	11 May 1993
(1997)	19 May 1997	(1992)	13 May 1992
(1996)	9 May 1996		

5. The Rule Changes contained in the previously published Notice 1 to the 2009 Floating Dry Dock Rules (together with Corrigenda) have been incorporated into the text of the 2018 Floating Dry Dock Rules.
6. Until the next edition of the Floating Dry Dock Rules is published, Rule Change Notices and/or Corrigenda, as necessary, will be published on the ABS website – www.eagle.org – and will be available free for downloading. It is not intended to publish hard copies of future Notices and/or Corrigenda to existing Rules or Guides. The consolidated edition of the *Rules for Building and Classing Steel Floating Dry Docks*, which includes Notices and/or Corrigenda using different colors for easy recognition, will be published on the ABS website only when Notices and/or Corrigenda are issued.
7. The listing of CLASSIFICATION SYMBOLS AND NOTATIONS is available from the Rules and Guides Downloads page of the ABS website www.eagle.org for download.

TABLE 1
Applicable Editions of Booklets Comprising 2018 Floating Dry Dock Rules

Rules for Building and Classing Steel Floating Dry Docks		
Notices and General Information		2018
Part 1:	Conditions of Classification (Supplement to the <i>ABS Rules for Conditions of Classification</i>) ⁽²⁾	2018
Part 3:	Hull Construction and Equipment	2018
Part 4:	Machinery Installations	2018
Rules for Conditions of Classification – not included ^(1,2)		
Part 1:	Rules for Conditions of Classification	2018
Rules for Materials and Welding – not included ⁽¹⁾		
Part 2:	Rules for Materials and Welding	2018
Rules for Survey After Construction – not included ⁽¹⁾		
Part 7:	Rules for Survey After Construction	2018

Notes:

- 1 These Rules are available for download from the ABS website at www.eagle.org, Rules and Guides, Downloads or may be ordered separately from the ABS Publications online catalog at www.eagle.org, Rules and Guides, Catalog.
- 2 The requirements for conditions of classification are contained in the separate, generic *ABS Rules for Conditions of Classification (Part 1)*. Additional specific requirements are contained in Part 1 of these Rules.

TABLE 2
Division and Numbering of Rules

<i>Division</i>	<i>Number</i>
Part	Part 1
Chapter	Part 1, Chapter 1
Section	Section 1-1-1
Subsection (see Note 1)	1-1-1/1
Paragraph (see Note 1)	1-1-1/1.1
Subparagraph	1-1-1/1.1.1
Item	1-1-1/1.1.1(a)
Subitem	1-1-1/1.1.1(a)i
Appendix	Appendix 1-1-A1 or Appendix 1-A1-1

Note:

- 1 An odd number (1, 3, 5, etc.) numbering system is used for the Rules. The purpose is to permit future insertions of even-numbered paragraphs (2, 4, 6, etc.) of text and to avoid the necessity of having to renumber the existing text and associated cross-references, as applicable, within the Rules and associated process instructions, check sheets, etc.

Change Notice (2018)

TABLE 3
Summary of Changes from the 2009 Rules

EFFECTIVE DATE 1 January 2017 – shown as (2017)
(based on the contract date for new construction between builder and Owner)

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
PART 3	Hull Construction and Equipment	
3-2-1/1	Loading Conditions	To specify a direct-calculation method to derive ESFs to adjust the wave-induced hull girder loads to evaluate the longitudinal strength for towing condition for a dry dock.

EFFECTIVE DATE 1 January 2018 – shown as (2018)
(based on the contract date for new construction between builder and Owner)

<i>Part/Para. No.</i>	<i>Title/Subject</i>	<i>Status/Remarks</i>
PART 3	Hull Construction and Equipment	
3-2-1/1	Loading Conditions	To provide requirements for dry docks under tow.
3-2-1/9 (New)	Dry Dock on Tow	To provide requirements for dry docks under tow.
3-2-A1 (New)	Guidance on Hull Structural Modeling and Analysis	To provide a procedure to perform direct strength assessment for the floating dry dock.

PART

1

Conditions of Classification (Supplement to the ABS Rules for Conditions of Classification)

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PART

1

Foreword (1 January 2008)

In 2008, Part 1, “Conditions of Classification” was consolidated into a generic booklet, entitled *Rules for Conditions of Classification (Part 1)* for all vessels other than those in offshore service. The purpose of this consolidation was to emphasize the common applicability of the classification requirements in “Part 1” to ABS-classed vessels, other marine structures and their associated machinery, and thereby make “Conditions of Classification” more readily a common Rule of the various ABS Rules and Guides, as appropriate.

Thus, this supplement specifies only the unique requirements applicable to steel floating dry docks. This supplement is always to be used with the aforementioned *Rules for Conditions of Classification (Part 1)*.

PART

1

CHAPTER 1 Scope and Conditions of Classification

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PART

1

CHAPTER 1 Scope and Conditions of Classification

SECTION 1 Classification (*1 January 2008*)

The requirements for conditions of classification are contained in the separate, generic *ABS Rules for Conditions of Classification (Part 1)*.

Additional requirements specific to steel floating dry docks are contained in the following Sections of this Part.

PART

1

CHAPTER 1 Scope and Conditions of Classification

SECTION 2 Classification Symbols and Notations (*1 January 2008*)

A listing of Classification Symbols and Notations available to the Owners of vessels, offshore drilling and production units, and other marine structures and systems, "List of ABS Notations and Symbols" is available from the ABS website "<http://www.eagle.org/absdownloads/index.cfm>".

The following notations are specific to steel floating dry docks.

1 Dry Docks Built Under Survey

Dry docks which have been built to the satisfaction of the ABS Surveyors to the requirements as contained in these Rules will be classed and distinguished in the *Record* by the symbols **⊠ A1 Floating Dry Dock**. Notations indicating the dry dock lifting capacities and the operating site also will be shown in the *Record*.

3 Dry Docks not Built Under Survey

Dry docks which have not been built under survey to ABS, but which are submitted for classification, will be subject to a special classification survey. Where found satisfactory and thereafter approved by the Classification Committee, they will be classed and distinguished in the *Record* by **A1 Floating Dry Dock**. The symbol **⊠** signifying survey during construction will be omitted. Notations indicating the dry dock lifting capacities and the operating site also will be shown in the *Record*.

PART

1

CHAPTER 1 Scope and Conditions of Classification

SECTION 3 Rules for Classification (*1 January 2008*)

1 Application

These Rules apply in general to dry docks over 61 m (200 ft) in length. Dry docks of less length will be subject to special consideration. When the dry dock is to be operated or towed in other than sheltered waters, special consideration is to be given to the longitudinal strength, wing wall strength, reinforcement against slamming, freeboard and stability, and other items as considered necessary.

3 Dry Dock Types

These Rules apply to the following dry dock types.

- One piece dry dock type in which the wing walls and the pontoon are continuous and inseparable along the dock structure
- Continuous-wing, sectional-pontoon type in which the wing walls run continuously and the bottom is formed of separable or permanently attached sectional pontoons
- Continuous pontoons and discontinuous wing walls.
- Sectional type with discontinuous sections of the wing walls and the bottom pontoon in which rotation or vertical movement or both is possible between each discontinuous section.

PART

1

CHAPTER 1 Scope and Conditions of Classification

SECTION 4 Submission of Plans

Plans showing the scantlings, arrangements, and details of the principal parts of the structure to be built under survey are to be submitted for review or approval before construction is commenced. These plans are to clearly indicate the scantlings, joint details and welding, or other methods of connection.

Plans should generally be submitted electronically. If plans are submitted in hard copy, then they are generally to be submitted in triplicate, one copy to be returned to those making the submission, one copy for the use of the Surveyor where the vessel is being built, and one copy to be retained in the Bureau Technical office for record. Additional copies may be required where the required attendance of the Surveyor is anticipated at more than one location.

In general, these plans are to include the following where applicable.

- General arrangement plan
- Transverse section scantlings at mid-length of dry dock
- Structural plans of the wing walls and pontoons
- Structural plans of the decks and bulkheads
- Tank arrangements showing also maximum service heads and heights of overflows and vent pipes and where used in design, data showing the maximum differential service head
- Pumping arrangements
- Machinery and electrical plans
- Piping systems
- Fire extinguishing systems
- Stability calculations and hydrostatic curves
- Calculations and data for longitudinal strength analysis
- Block loading data
- Operating manual
- Crane load distribution
- Particulars of indicator systems for tank water level and drafts
- Particulars of deflection indicating system

Materials and Welding

The independent booklet, *ABS Rules for Materials and Welding (Part 2)*, for steels, irons, bronzes, etc., is to be referred to. This booklet consists of the following Chapters:

Rules for Testing and Certification of Materials

CHAPTER 1 Materials for Hull Construction

CHAPTER 2 Equipment

CHAPTER 3 Materials for Machinery, Boilers, Pressure Vessels, and Piping

APPENDIX 1 List of Destructive and Nondestructive Tests Required for Materials and Responsibility for Verifying

APPENDIX 4 Procedure for the Approval of Manufacturers of Hull Structural Steel

APPENDIX 5 Procedure for the Approval of Manufacturers of Hull Structural Steels Intended for Welding with High Heat Input

APPENDIX 6 Nondestructive Examination of Marine Steel Castings

APPENDIX 7 Nondestructive Examination of Hull and Machinery Steel Forgings

APPENDIX 8 Additional Approval Procedure for Steel with Enhanced Corrosion Resistance Properties

Rules for Welding and Fabrication

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3

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PART 3

CHAPTER 1 General

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PART

3

CHAPTER 1 General

SECTION 1 Definitions

1 Application

The following definitions apply throughout these Rules.

3 Length

L_m is the molded length, in m (ft), between the end bulkheads of the lifting portion of the dry dock in its normal operating mode.

L_{od} is the length overall, in m (ft), and indicates the extreme length over aprons.

5 Breadth

B is the greatest horizontal distance, in m (ft), between the outer surfaces of the outer side plating of the wing walls.

B_O is the greatest horizontal distance, in m (ft), between the outer surfaces of the outer wing walls or fixed projections thereon.

B_I is the least breadth, in m (ft), between the inner sides of the wing wall surfaces measured at the top of the keel blocks.

B_{IC} is the least breadth, in m (ft), between inner wing wall surfaces, or fixed projections thereon, measured at any point above the keel blocks.

7 Depth

D is the molded depth, in m (ft), measured at the centerline from the inner surface of the bottom plating to the inner surface of the top deck plating.

9 Clear Draft

d_c is the distance, in m (ft), from the top of the keel blocks to the waterline corresponding to the wing wall freeboard.

11 Safety Deck

The *Safety Deck* is a watertight deck extending over the length of the wing walls and located below the top deck.

13 Top Deck

The *Top Deck* is the deck extending over the length of the wing walls to form the top of the wing walls.