



Designation: ~~A952/A952M—02 (Reapproved 2010)~~ A952/A952M – 02 (Reapproved 2016)

# Standard Specification for Forged Grade 80 and Grade 100 Steel Lifting Components and Welded Attachment Links<sup>1</sup>

This standard is issued under the fixed designation A952/A952M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers the requirements for forged alloy steel lifting components and welded coupling and master links for Grade 80 and Grade 100 alloy chain slings as described in Specification [A906/A906M](#).

1.2 Two grades of components and welded links are covered:

- 1.2.1 Grade 80.
- 1.2.2 Grade 100.

1.3 This specification is a performance standard. Other standards apply to use of these products. Some of these standards are: OSHA 1910.184, ASME B30.9, and ASME B30.10.

1.4 The values stated in either inch-pound or SI units are to be regarded separately as standard. Within the text, the SI units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the specification.

## 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

[A29/A29M](#) Specification for General Requirements for Steel Bars, Carbon and Alloy, Hot-Wrought

[A391/A391M](#) Specification for Grade 80 Alloy Steel Chain

[A751](#) Test Methods, Practices, and Terminology for Chemical Analysis of Steel Products

[A906/A906M](#) Specification for Grade 80 and Grade 100 Alloy Steel Chain Slings for Overhead Lifting

[A973/A973M](#) Specification for Grade 100 Alloy Steel Chain

[E4](#) Practices for Force Verification of Testing Machines

[E44](#) Definitions for Terms Relating to Heat Treatment of Metals (Withdrawn 1993)<sup>3</sup>

[E165/E165M](#) Practice for Liquid Penetrant Examination for General Industry

[E709](#) Guide for Magnetic Particle Testing

2.2 *Other Standards*:

[OSHA 1910.184](#) Slings<sup>4</sup>

[ASME B30.9](#) Slings<sup>5</sup>

[ASME B30.10](#) Hooks<sup>5</sup>

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard*:

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee A01 on Steel, Stainless Steel and Related Alloys and is the direct responsibility of Subcommittee A01.27 on Steel Chain.

Current edition approved April 1, 2010/Sept. 1, 2016. Published May 2010/September 2016. Originally approved in 1996. Last previous edition approved in 2002/2010 as [A952/A952M/A952/A952M–02\(2010\)](#), –02–DOI: 10.1520/A0952\_A0952M-02R16; 10.1520/A0952\_A0952M-02R16.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the [standard's Document Summary](#) page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

<sup>4</sup> Available from Occupational Safety and Health Administration (OSHA), 200 Constitution Ave., NW, Room Number N3626, Washington, DC 20210, <http://www.osha.gov>.

<sup>5</sup> Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, ~~Three~~Two Park Ave., New York, NY 10016-5990, <http://www.asme.org>.

3.1.1 *breaking force, minimum*—the minimum force in pounds or newtons at which the component has been found by verification testing to break when a constantly increasing force was applied in direct tension. This test is a manufacturer's design verification test and shall not be used as criteria for service.

3.1.2 *chain sling*—an assembly consisting of alloy steel chain joined to upper and lower end components for attaching loads to be lifted by a crane or lifting machine.

3.1.3 *coupling link*—a link fitted to the end of the chain to connect to another component of the sling. See Fig. 1.

3.1.4 *master link*—a link used as an upper end component of a chain sling and by means of which the sling may be attached to a crane or other device. See Fig. 1.

3.1.5 *master coupling link (secondary or intermediate link)*—a link used on three and four leg slings to connect the legs to a master link. See Fig. 1.

3.1.6 *proof test*—a quality control tensile test applied to components for the purpose of verifying manufacturing and material quality. It is the minimum force in pounds or newtons which the component has withstood at the time it left the producer, under a test in which a constantly increasing force has been applied in direct tension. Proof test loads are a manufacturing integrity test and shall not be used as criteria for service.

3.1.7 *traceability code*—a series of letters, or numbers, or both, marked on a component which enables its manufacturing history, including identity of the steel heat, to be traced.

3.1.8 *working load limit (WLL)*—the maximum combined static and dynamic load in pounds or kilograms that shall be applied in direct tension to the component.

#### 4. Classification

4.1 Only Grade 80 and Grade 100 components are covered under this specification.

4.2 Sixteen classes of components are covered under this specification. The general configuration on these components are shown in Fig. 1.

4.2.1 Class *EGH*—Eye Grab Hook.

4.2.2 Class *CGH*—Clevis Grab Hook.

4.2.3 Class *ESH*—Eye Sling Hook.

4.2.4 Class *CSH*—Clevis Sling Hook.

4.2.5 Class *EFH*—Eye Foundry Hook.

4.2.6 Class *CFH*—Clevis Foundry Hook.

4.2.7 Class *CLM*—Coupling Link, Mechanical.

4.2.8 Class *ESLH*—Eye Self-Locking Hook.

4.2.9 Class *CSLH*—Clevis Self-Locking Hook.

4.2.10 Class *ECGH*—Eye Claw Grab Hook.

4.2.11 Class *CCGH*—Clevis Claw Grab Hook.

4.2.12 Class *ML*—Master Link.

4.2.13 Class *MCL*—Master Coupling Link.

4.2.14 Class *CL*—Coupling Link.

4.2.15 Class *CCL*—Clevis Coupling Link.

4.2.16 Class *OTH*—Specialty components may be required for certain applications.

4.3 For the classes listed in 4.2, an “S” prefix denotes a component with a swivel joint.

#### 5. Ordering Information

5.1 It shall be the responsibility of the purchaser to specify all requirements that are necessary for material ordered under this specification. Such requirements to be considered include, but are not limited to, the following:

5.1.1 Product to conform to Specification A952 or Specification A952M and year of issue.

5.1.2 Nominal size of component, in. [mm] (see Note 1).

5.1.3 Grade of component.

5.1.4 Class of component.

5.1.5 Quantity of components.

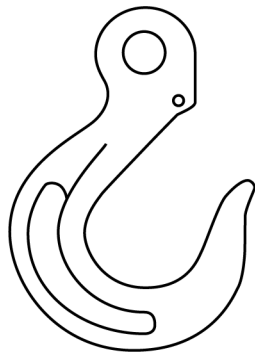
5.1.6 Finish, if required.

5.1.7 Certification, if required.

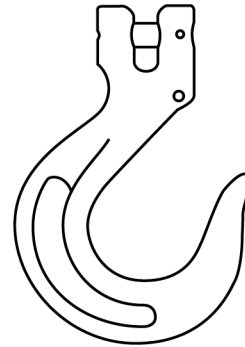
5.1.8 Acceptance of inspection by purchaser, if required.

5.1.9 Supplementary requirements, if required.

NOTE 1—Component size and working load limits are based on Grade 80 and Grade 100 alloy steel chain nominal sizes. See Specification Specifications A391/A391M and A973/A973M.



Class ESH  
Eye Sling Hook



Class CSH  
Clevis Sling Hook



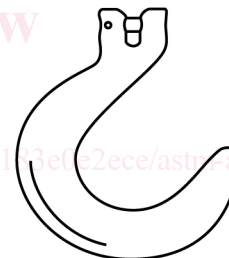
Class EGH  
Eye Grab Hook



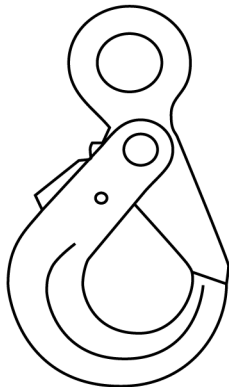
Class CGH  
Clevis Grab Hook



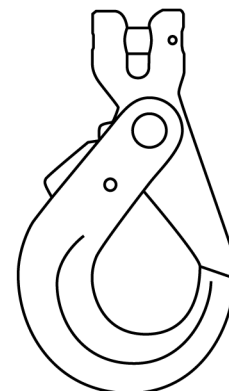
Class EFH  
Eye Foundry Hook



Class CFH  
Clevis Foundry Hook

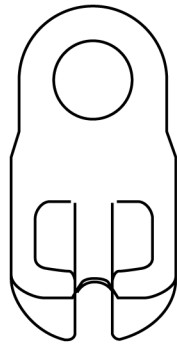


Class ESLH  
Eye Self-Locking Hook

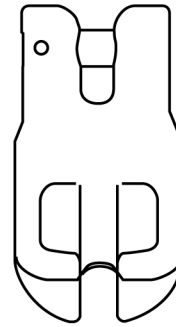


Class CSLH  
Clevis Self-Locking Hook

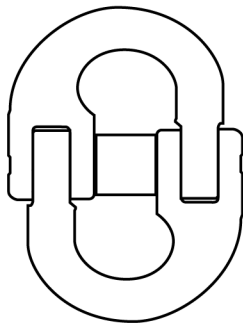
FIG. 1 General Component Configuration



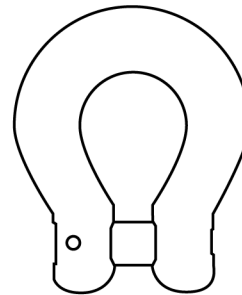
Class ECGH  
Eye Claw Grab Hook



Class CCGH  
Clevis Claw Grab Hook



Class CLM  
Coupling Link, Mechanical



Class CCL  
Clevis Coupling Link

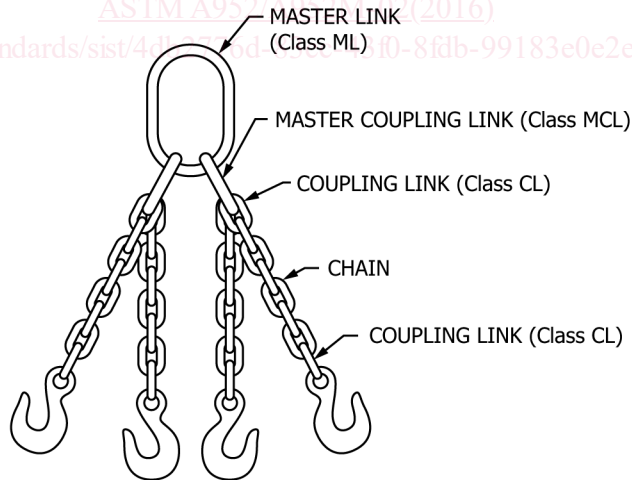
iTeh Standards

(<https://standards.itih.ai>)

Document Preview

ASTM A952/A952M - 02 (2016)

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Class ML, MCL, CL  
Master Link, Master Coupling Link, Coupling Link

FIG. 1 General Component Configuration (continued)