



Designation: A1067/A1067M – 12a (Reapproved 2018)

# Standard Specification for Test Coupons for Steel Castings<sup>1</sup>

This standard is issued under the fixed designation A1067/A1067M; 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 defines the geometries of several separately cast and integrally cast test coupons for use as specified in the applicable casting product or common requirements standard. This standard does not address procedures for molding, casting, heat treating, machining, or testing; these items are addressed as needed and appropriate by the applicable product or common requirements standard.

NOTE 1—The test coupons described herein were formerly defined in multiple casting specifications. Those standards now reference this document when test coupons are required and should be consulted for applicable manufacturing and processing requirements.

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

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Ordering Information

2.1 The applicable casting product standard or common requirements standard, or both, provide information regarding the number of coupons, molding materials to be used, heat treatment concerns, and other processing issues.

<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 A01.18 on Castings.

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## 3. Materials and Manufacture

3.1 Unless otherwise specified by the purchaser, test coupons shall be poured from the same heat, or from the same master heat, or from a sub-heat from the same master heat as the castings they are to represent.

3.2 Except where specified herein or in the applicable product or common requirements standard, the details of the gating and risering of the coupons are left to the discretion of the producer.

3.3 The test coupons shall be processed and heat treated as specified in the applicable product or common requirements specification. Except when specified otherwise, the portion of the test coupon from which the test specimen or specimens are to be machined may be cut from the riser or feeder prior to heat treatment.

## 4. Performance Requirements

4.1 The primary function of the test coupon is to provide sound specimens useable for the determination of mechanical, physical, corrosion, or other properties of the metal used to produce the castings. If the test results conform to the stated requirements, then the test coupon may be considered to have functioned acceptably.

## 5. Other Requirements

5.1 The casting producer shall establish procedures for the identification and traceability of the coupons from pouring through testing.

## 6. Dimensions and Permissible Variations

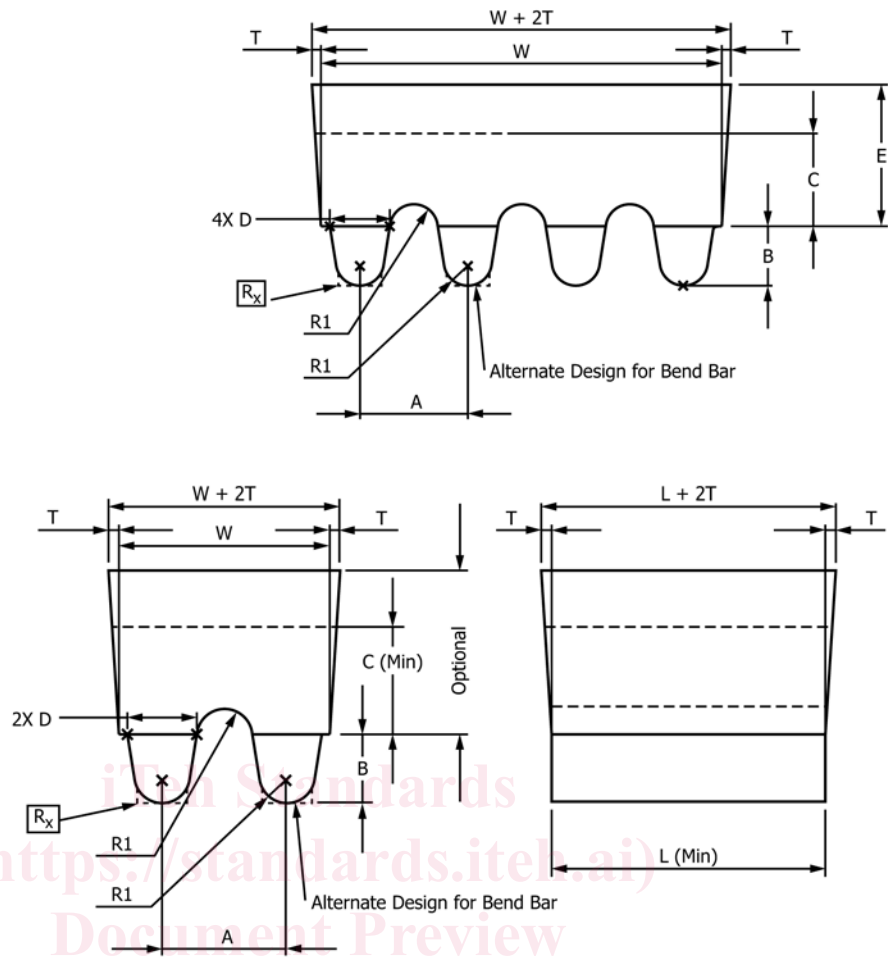
6.1 The drawings shown in this standard are not necessarily drawn to scale. The values shown in the tables constitute the dimensional requirements.

6.2 The drawings shown in this standard depict the more commonly used test coupons (Figs. 1-9). Other designs may be suitable when shown to produce acceptable properties or where agreed.

## 7. Workmanship, Finish, and Appearance

7.1 Care should be taken in the preparation and pouring of the molds to avoid the creation of inclusions or other anomalies in the resulting test specimens.

\*A Summary of Changes section appears at the end of this standard



Feature	4-leg design		2-leg design	
	in.	mm	in.	mm
A	2 1/4	60	2 1/4	60
B	1 1/4	35	1 1/4	35
C	2	50	2	50
D	1 1/4	35	1 1/4	35
E	Optional	Optional	Optional	Optional
W	8 5/8	215	3 3/8	100
T	*	*	*	*
L	5 min.	125 min.	5 min.	125 min.
R1	1/2	12.5	1/2	12.5
Rx	0 – 1/16	0 – 2	0 – 1/16	0 – 2

\*Use of and size of taper is at the discretion of the foundry.

FIG. 1 Test Coupons for Castings

**8. Sampling**

8.1 Care shall be taken in the production and processing of the test coupon to ensure that it is representative of the casting or castings it represents.

**9. Number of Tests and Retests**

9.1 Sufficient test coupons shall be produced to provide the needed number of test specimens.

**10. Certification**

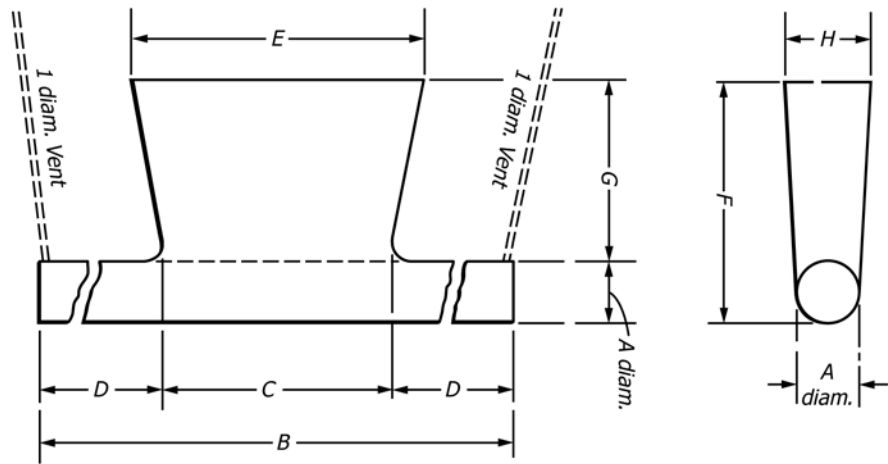
10.1 Certification of the test coupon is not applicable, except when specified by the casting purchaser.

**11. Product Marking**

11.1 Marking of test coupons other than as necessary to provide the identification and traceability described in 6.1 is not needed, except where specified by the casting purchaser and agreed by the producer.

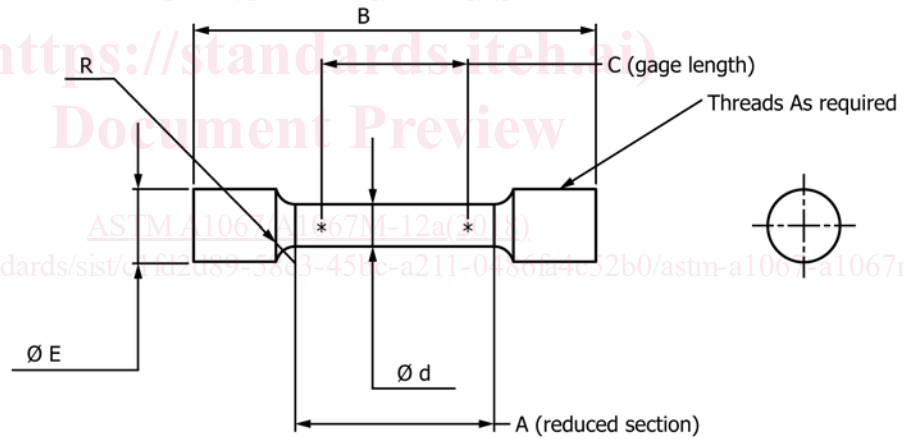
**12. Keywords**

12.1 castings; heat; master heat; stainless steel; steel; sub-heat; test bar; test coupon



Feature	in.	mm
A	1 <sup>1</sup> / <sub>16</sub>	30
B	5 to 11	125 to 280
C	4	100
D	1/2 to 3/2	13 to 90
E	5	125
F	4 <sup>1</sup> / <sub>16</sub>	105
G	3	75
H	1 <sup>1</sup> / <sub>2</sub>	40
I	1/8	3

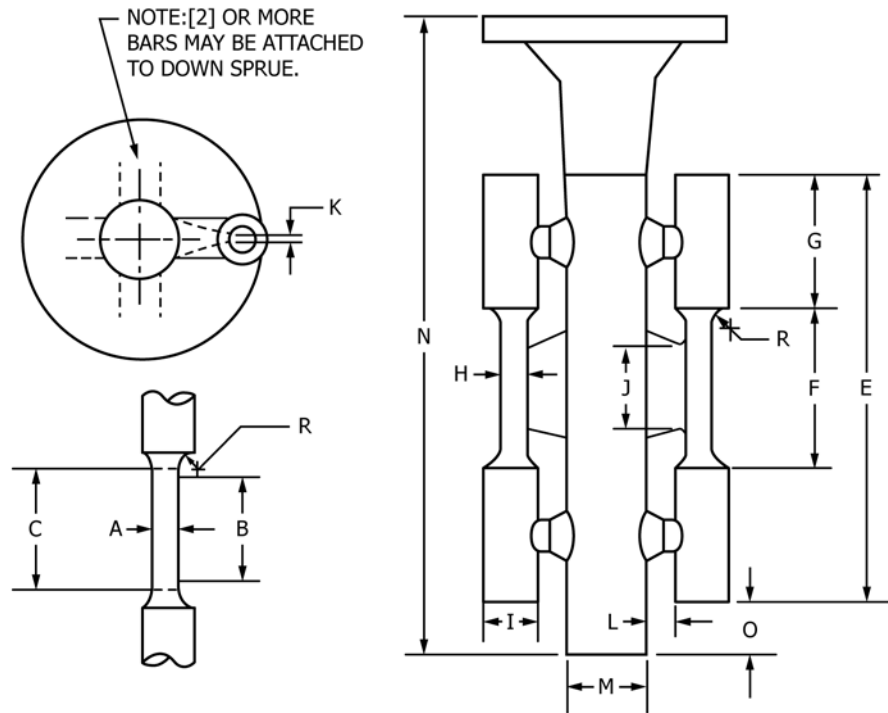
FIG. 2 Test Coupon for Tension Test



Feature	in.	mm
A	1 <sup>1</sup> / <sub>4</sub>	35
B	3 min.*	80 min.*
C	1.00	25
d	1/4 **	5**
R	1/4 **	5**
Ø E	1/2 *	13*

\*Suggested Dimension \*\*Plus finishing stock

FIG. 3 Design and Dimensions of the ICI Test Coupon



Feature	in.	mm
A	1/2 **	13**
B	2	50
C	2 1/4	60
E	8*	200*
F	3*	75*
G	2 1/2 *	65*
H	1/2 **	13**
I	5/8 *	17*
J	1 5/8 *	40 min.*
K	1/4 min.*	7 min.*
L	1/2 *	13*
M	1 1/2 *	40*
N	12*	300*
R	3/8	10

\* Suggested dimension. \*\* Plus finishing stock.

FIG. 4 Cast-to-Shape Test Coupon for Tension Test Specimen