



Designation: **A830/A830M—13** **A830/A830M – 14**

## Standard Specification for Plates, Carbon Steel, Structural Quality, Furnished to Chemical Composition Requirements<sup>1</sup>

This standard is issued under the fixed designation A830/A830M; 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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope\*

- 1.1 This specification covers structural quality carbon steel plates furnished to chemical composition requirements.
- 1.2 The plates are available in several standard steel grades and non-standard grades.
- 1.3 The plates are usually furnished in the as-rolled (hot-rolled) condition.
- 1.4 Supplementary requirements are provided for additional requirements that may be specified on the order.
- 1.5 When the steel is to be welded, it is presupposed that a welding procedure suitable for the grade of steel and intended use or service will be utilized. See Appendix X3 of Specification **A6/A6M** for information on weldability.
- 1.6 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 non-conformance with the standard.

### 2. Referenced Documents

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

**A6/A6M** Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling

### 3. Ordering Information

- 3.1 In addition to the information required by Specification **A6/A6M**, the order shall include the following, if applicable:
  - 3.1.1 Silicon requirements (see **5.3** and Supplementary Requirement S96), and
  - 3.1.2 Limitation on rimmed or capped steel.

### 4. Materials and Manufacture

- 4.1 The steel shall be killed.

### 5. Chemical Composition

- 5.1 The heat analysis shall conform to the requirements for the applicable grade listed in **Table 1**, unless otherwise specified as permitted in **5.2**.
- 5.2 The chemical requirements for heat analysis may be specified in accordance with the ranges and limits listed in **Table 2**. In such instances, the heat analysis shall conform to the requirements specified on the order.
- 5.3 When silicon is required, the range on heat analysis shall be from 0.15 to 0.40 % unless otherwise specified on the order (see Supplementary Requirement S96).

### 6. General Requirements

- 6.1 Material furnished under this specification shall conform to the requirements of the current edition of Specification **A6/A6M**, for the ordered material, unless a conflict exists in which case this specification shall prevail.

<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 **A01.02** on Structural Steel for Bridges, Buildings, Rolling Stock and Ships.

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<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.

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



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### TABLE 1 Carbon Plate Compositions, Standard Steels<sup>A</sup>

Grade	Chemical Composition Limits, %			
Number	Carbon	Manganese	Phosphorous, max	Sulfur, max
<del>1006</del>	<del>0.08 max</del>	<del>0.45 max</del>	<del>0.035</del>	<del>0.04</del>
1006	0.08 max	0.45 max	0.030	0.030
<del>1008</del>	<del>0.10 max</del>	<del>0.50 max</del>	<del>0.035</del>	<del>0.04</del>
1008	0.10 max	0.50 max	0.030	0.030
<del>1009</del>	<del>0.15 max</del>	<del>0.60 max</del>	<del>0.035</del>	<del>0.04</del>
1009	0.15 max	0.60 max	0.030	0.030
<del>1010</del>	<del>0.08 to 0.13</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1010	0.08 to 0.13	0.30 to 0.60	0.030	0.030
<del>1012</del>	<del>0.10 to 0.15</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1012	0.10 to 0.15	0.30 to 0.60	0.030	0.030
<del>1015</del>	<del>0.13 to 0.18</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1015	0.13 to 0.18	0.30 to 0.60	0.030	0.030
<del>1016</del>	<del>0.13 to 0.18</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1016	0.13 to 0.18	0.60 to 0.90	0.030	0.030
<del>1017</del>	<del>0.15 to 0.20</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1017	0.15 to 0.20	0.30 to 0.60	0.030	0.030
<del>1018</del>	<del>0.15 to 0.20</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1018	0.15 to 0.20	0.60 to 0.90	0.030	0.030
<del>1019</del>	<del>0.15 to 0.20</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1019	0.15 to 0.20	0.70 to 1.00	0.030	0.030
<del>1020</del>	<del>0.18 to 0.23</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1020	0.18 to 0.23	0.30 to 0.60	0.030	0.030
<del>1021</del>	<del>0.18 to 0.23</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1021	0.18 to 0.23	0.60 to 0.90	0.030	0.030
<del>1022</del>	<del>0.18 to 0.23</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1022	0.18 to 0.23	0.70 to 1.00	0.030	0.030
<del>1023</del>	<del>0.20 to 0.25</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1023	0.20 to 0.25	0.30 to 0.60	0.030	0.030
<del>1025</del>	<del>0.22 to 0.28</del>	<del>0.30 to 0.60</del>	<del>0.035</del>	<del>0.04</del>
1025	0.22 to 0.28	0.30 to 0.60	0.030	0.030
<del>1026</del>	<del>0.22 to 0.28</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1026	0.22 to 0.28	0.60 to 0.90	0.030	0.030
<del>1030</del>	<del>0.28 to 0.34</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1030	0.28 to 0.34	0.60 to 0.90	0.030	0.030
<del>1033</del>	<del>0.30 to 0.36</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1033	0.30 to 0.36	0.70 to 1.00	0.030	0.030
<del>1035</del>	<del>0.32 to 0.38</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1035	0.32 to 0.38	0.60 to 0.90	0.030	0.030
<del>1037</del>	<del>0.32 to 0.38</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1037	0.32 to 0.38	0.70 to 1.00	0.030	0.030
<del>1038</del>	<del>0.35 to 0.42</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1038	0.35 to 0.42	0.60 to 0.90	0.030	0.030
<del>1039</del>	<del>0.37 to 0.44</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1039	0.37 to 0.44	0.70 to 1.00	0.030	0.030
<del>1040</del>	<del>0.37 to 0.44</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1040	0.37 to 0.44	0.60 to 0.90	0.030	0.030
<del>1042</del>	<del>0.40 to 0.47</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1042	0.40 to 0.47	0.60 to 0.90	0.030	0.030
<del>1043</del>	<del>0.40 to 0.47</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1043	0.40 to 0.47	0.70 to 1.00	0.030	0.030
<del>1045</del>	<del>0.43 to 0.50</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1045	0.43 to 0.50	0.60 to 0.90	0.030	0.030
<del>1046</del>	<del>0.43 to 0.50</del>	<del>0.70 to 1.00</del>	<del>0.035</del>	<del>0.04</del>
1046	0.43 to 0.50	0.70 to 1.00	0.030	0.030
<del>1049</del>	<del>0.46 to 0.53</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1049	0.46 to 0.53	0.60 to 0.90	0.030	0.030
<del>1050</del>	<del>0.48 to 0.55</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1050	0.48 to 0.55	0.60 to 0.90	0.030	0.030
<del>1055</del>	<del>0.50 to 0.60</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1055	0.50 to 0.60	0.60 to 0.90	0.030	0.030
<del>1060</del>	<del>0.55 to 0.65</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1060	0.55 to 0.65	0.60 to 0.90	0.030	0.030
<del>1064</del>	<del>0.60 to 0.70</del>	<del>0.50 to 0.80</del>	<del>0.035</del>	<del>0.04</del>
1064	0.60 to 0.70	0.50 to 0.80	0.030	0.030
<del>1065</del>	<del>0.60 to 0.70</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1065	0.60 to 0.70	0.60 to 0.90	0.030	0.030
<del>1070</del>	<del>0.65 to 0.75</del>	<del>0.60 to 0.90</del>	<del>0.035</del>	<del>0.04</del>
1070	0.65 to 0.75	0.60 to 0.90	0.030	0.030