

1.0 Introduction.

1.1 Scope. This standard establishes a conformance test procedure for the performance of adhesive coated prevailing-torque screws, in nominal screw sizes No. 4 thru 3/4 in.

Torque values given in this standard are conformance requirements for adhesive coated prevailing-torque screws and apply only to the combination of test conditions described in the performance test procedure (Para. 5.1). If the conditions of the actual service application differ from those of Para. 5.1 (e.g., length of thread engagement, class of internal thread tolerance, different coating on screw or mating part) the torque values may differ. Such values can only be determined through testing the prevailing-torque screw in its actual assembly.

This standard is not concerned with dimensional features such as head styles, or with other mechanical or performance capabilities such as strength properties, corrosion resistance, sealing, suitability for use in high or low temperatures, and/or consistency of torque-to-tension relationships during assembly. Such features and properties are covered in other standards and specifications, and must be referenced when specifying an adhesive coated prevailing-torque screw to ensure that all of the service conditions of the particular engineering application are properly met.

1.2 Definitions.

1.2.1 An adhesive coated prevailing-torque screw (hereinafter called "screw") is an externally threaded fastener which is resistant to rotation due to a adhesive coating, and not because of a compressive load developed against the underhead bearing surface of the screw or a tensile load developed in the shank of the screw.

2.0 Referenced Standards.

2.1 ASME Standards.

These may be obtained from ASME; Three Park Avenue; New York, NY 10016-5990.

- ASME B1.1, *Unified Inch Screw Threads (UN and UNR Thread Form)*.
- ASME B1.3M, *Screw Thread Gaging Systems for Dimensional Acceptability — Inch and Metric Screw Threads (UN, UNR, UNJ, M, and MJ)*.
- ASME B18.2.2, *Square and Hex Nuts (Inch Series)*
- ASME B18.6.3, *Machine Screws and Machine Screw Nuts*

3.0 Designations.

3.1 Types. There are two types of adhesive coated screws based on when the adhesive coating is applied. Preapplied adhesive coatings are applied as part of screw manufacturing prior to delivery for assembly. Applied liquid adhesive coatings are applied as part of the assembly operation or in service applications.

3.2 Design. The composition and application of the adhesive coating shall be in accordance with the practice of the manufacturer. For applications where temperatures may exceed 200°F and/or a lubricant is present or applied for protection or ease of assembly, an adverse effect may result on the prevailing-torque material. The manufacturer's data should be consulted to determine suitability of the selection.

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**Table 1 - Torque Values for Screws With Preapplied
Adhesive Coatings**

Nom Screw Size and Threads per Inch	Prevailing-On Torque in. lbs.	Breakaway Torque in. lbs.	Prevailing-Off Torque in. lbs.
	Max	Min	Min
No. 4 - 40	2.5	1.5	0.6
No. 4 - 48	2.5	1.5	0.6
No. 5 - 40	3.0	2.0	1.0
No. 5 - 44	3.0	2.0	1.0
No. 6 - 32	4.0	2.5	1.5
No. 6 - 40	4.0	2.5	1.5
No. 8 - 32	6.0	4.0	2.8
No. 8 - 36	6.0	4.0	2.8
No. 10 - 24	9.0	6.5	4.5
No. 10 - 32	9.0	6.5	4.5
1/4 - 20	15	12	9
1/4 - 28	15	12	9
5/16 - 18	24	24	12
5/16 - 24	24	24	12
3/8 - 16	48	60	36
3/8 - 24	48	60	36
7/16 - 14	60	96	48
7/16 - 20	60	96	48
1/2 - 13	72	140	90
1/2 - 20	72	140	90
9/16 - 12	96	192	120
9/16 - 18	96	192	120
5/8 - 11	120	252	150
5/8 - 18	120	252	150
3/4 - 10	180	324	200
3/4 - 16	180	324	200

NOTE: Values are based on nut engagement in chemical area for a distance of one nominal screw diameter. See Note Para. 4.3.1.

4.0 Requirements.

4.1 Finish. Screws shall be furnished plain or with a protective coating as specified by the purchaser.

4.2 Threads.

4.2.1 Thread Tolerances. Threads of screws shall be Unified coarse or fine series, as specified in ASME B1.1. Unless otherwise specified, threads shall have Class 2A tolerances.

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