

MIL-STD-798(SHIPS)
NOTICE-1
27 November 1968

MILITARY STANDARD
NONDESTRUCTIVE TESTING, WELDING, QUALITY
CONTROL, MATERIAL CONTROL AND IDENTIFICATION
AND HI-SHOCK TEST REQUIREMENTS FOR PIPING
SYSTEM COMPONENTS FOR NAVAL SHIPBOARD USE

TO ALL HOLDERS OF MIL-STD-798(SHIPS)

1. AS OUTLINED IN THE SPECIAL INSTRUCTIONS ON BACK OF COVER PAGE OF MIL-STD-798 (SHIPS) ONE PAGE OF THE STANDARD HAS BEEN REVISED. THE REVISED PAGE, AND PAGE IT SUPERSEDES IS LISTED IN PARAGRAPH 4.
2. SUPERSEDED PAGE SHOULD BE REMOVED AND THE REVISED PAGE SHOULD BE INSERTED IN ITS PROPER LOCATION.
3. SUPERSEDED PAGE MUST BE RETAINED FOR REFERENCE PURPOSES.
4. THE FOLLOWING PAGE OF MIL-STD-798(SHIPS) HAS BEEN REVISED AND SUPERSEDES THE PAGE LISTED:

<u>NEW PAGE</u>	<u>DATE</u>	<u>SUPERSEDED PAGE</u>	<u>DATE</u>
9	27 November 1968	9	16 December 1965
10	16 December 1965	Reprinted without change	

5. RETAIN THIS NOTICE AND INSERT BEFORE THE TABLE OF CONTENTS.
6. Holders of MIL-STD-798(SHIPS) will verify that page change indicated in paragraph 4 has been entered. The notice page will be retained as a check sheet. This issuance, together with appended pages is a separate publication. Each notice is to retained by stocking points until the Military Standard is completely revised or cancelled.

Preparing activity:
Navy - SH
(Project MISC-N579)

FSC MISC

11. HIGH-IMPACT SHOCK TESTS

11.1 Valves shall be tested as specified in table V. The valve shall be subjected to a pressure (the test media shall be at ambient or room temperature) equal to the primary service rating of the valve, as defined in 3.1 or 3.2. Test of the sizes listed in table VI will be extended as indicated upon compliance with the conditions for extension of HI shock tests in 11.3. Tests shall be conducted in accordance with MIL-S-901. When shock testing is required for components other than valves, tests and subsequent inspections shall be specified in the contract or order.

Table V - HI shock tests

Valve type	Positions	Pressure conditions
Non-throttling: (gate, ball, butterfly, trip, solenoid, etc.)	Full open	Pressurized throughout
	Full closed	Pressurized on inlet side
Throttling: (globe, angle, dump, astern, needle, sleeve, temperature regulating, etc.)	Full closed	Pressurized on inlet side
	Disc at intermediate position (not on either seat)	Pressurized throughout
Check (swing lift)	As is	Pressurized throughout
	Full closed	Back pressure on disc
Stop check	As is, stem backed off	Pressurized throughout
	Full closed, stem engaged	Pressurized on inlet side
	Full closed, stem backed off	Back pressure on disc
Automatic pressure regulating and control (see note 1)	Lock up	Pressurized on inlet side, valve maintaining, outlet pressure, in a dead end volume, equal to mid-range setting of the valve
Relief (see note 2)	Full closed	Pressurized on inlet side

Notes:

1. The validity of shock test approval of pressure regulating or control valves tested at the "maximum design pressure differential" as required by the previous issue of this standard shall not be affected by this change.
2. Relief valves shall be shocked tested at the setting required by the application for which they are being procured, and pressurized on the inlet with the corresponding system operating pressure. Shock approval notes shall record the setting and inlet pressure under which the valve was tested, however normally this same size and design relief valve, when used on a subsequent application involving a different set pressure, shall not require re-shock test (or extension action) because of the different set pressure (this applies to multiple spring as well as single spring designs). In other words, generally a different setting (and inlet pressure) will not, in itself, be cause for re-shock testing. However in instances where it is deemed advisable by the approving authority re-shock testing for a new application (or set pressure) may be required.

Table VI - Sizes to be Shock Tested

Size Tested (Inches)	Approves All These Sizes (see 11.3) (Inches)
3/4	3/4 and smaller
2	1 to 2, inclusive
6	2-1/2 to 6, inclusive
8	7 and 8
10	9 and 10
over 10	All sizes shall be tested

11.2 Post shock examination and testing to determine acceptance of the item shall be as specified in the applicable specification or drawing for production tests, except that the tested unit shall receive a complete visual and dimensional examination before and after the post-shock tests. The "before" visual and dimensional checks shall be performed on the external surfaces only since the valve is not to be disassembled for internal visual and dimensional checking until after all post-shock tests have been completed. No relaxation or deviations in post-shock testing shall be permitted unless specifically approved by the Bureau of Ships.

11.3 The following conditions shall be met to permit an extension of a shock test from one size to another (see table VI), except as specified in 11.4.

- (a) Same geometry and design.
- (b) Same materials.
- (c) Same pressure rating.
- (d) Same bonnet construction.
- (e) Same end connection construction.
- (f) Same methods of sealing throughout.
- (g) Same mode of operation and operator attachment.

11.4 The following conditions shall apply to the requirements governing test extensions:

- (a) The vendor or shipbuilder (or activity requesting extension) should supply supporting evidence which should include:
 - (1) Detailed drawings of tested and untested items.
 - (2) A copy of the report of the shock test which the requested extension is based upon.
 - (3) A detailed comparison of the differences in materials and design showing that the untested item has equal or greater shock resistance than the tested item.
- (b) Extensions should not be granted for equipments based upon tests in different weight classifications or on equipment by different manufacturers.
- (c) The acceptability of the test report should be considered. Was it perfectly acceptable, or marginal, or might it by present standards be unacceptable?
- (d) When a doubt exists, Bureau of Ships technical codes should be contacted to provide general guidance in their cognizant areas as to allowable size spreads between tested and untested items.
- (e) Tests provide assurance of shock resistant equipment. Extensions should not be granted whenever reasonable doubt exists in the area of the original shock test, the design or fabrication of the unit or the intended use of the equipment. It should be noted that repeat tests of identical items are sometimes desirable as a quality control measure.
- (f) Where desired, it will be permissible to test separate valves in the principal operating conditions specified, provided the valves tested under each set of conditions are completely identical in all respects.

11.5 Table VI is a representation of the general situation throughout the valve industry, with regard as to where changes occur in the design approach. If a manufacturer has a design series with changes occurring at sizes other than those listed in table VI, an extension to apply different sizes should be requested from the Bureau of Ships.