

Material Standards & Specifications

Specialty Products Company



MSS	4.005	Weld Tensile Test
Approved by:	CCH	
Revision:	A	
Date:	07/10/08	

Scope:

This test is designed to detect the presence of material or weld defects that may not be visible. This test consists of both destructive and non-destructive options. This specification replaces IP-066.

Test Setup:

- The intent of this tensile test is to fixture the sample part in a manner that mimics its actual usage.
- The clevis end attachments must use Grade 8 or Class 10.9 hardware properly sized to fit attachment holes.
- Spacer bars to approximate attachment mounting shall be used on clevis ends.
- Bolt hardware shall not be tightened to prevent induced bending moments into the sample at the weld joint.
- The eyelet end attachment must be fixtured such that no bending moment is introduced into the sample at the weld joint.
- The rate of load application must not exceed 1000[LBF/SEC] (4450[N/SEC]).

Type 1: (Destructive Procedure)

- There shall be three (3) samples tested per manufacturing lot.
- The minimum destructive load shall be per Chart I.
- Apply the load until the specified load is reached. Cracking, breakage or deflection in excess of 0.30[IN] (7.6[MM]) shall be deemed a failure of this test.
- Submit test records with the shipment, prior to shipment, or as requested on the Purchase Order.
- Test records & specimens must be retained for not less than three (3) years. Photographs or samples of tested specimens may be requested at the discretion of Specialty Products Quality Services.
- Failure of any of the samples requires rejection of the entire lot. Root cause evaluation and corrective action must be documented and submitted to Specialty Products Company for review and approval before proceeding.

Type 2: (Non-destructive Procedure)

- This test is designed to provide a reasonable loading that provides a “proof load” to be used for non-destructive evaluation.
- Sampling level shall be at the discretion of Quality Services.
- The proof load shall be per Chart I.
- Apply the load until the specified load is reached; the part fails; or the yielding exceeds 0.30[IN] (7.6[MM])-whichever occurs first.
- Cracking, breakage of the weldment or any permanent deflection shall be deemed a failure of this test.
- Test records must be retained for not less than three (3) years.
- Failure of any of the samples requires rejection of the entire lot. Root cause evaluation and corrective action must be documented and submitted to Specialty Products Company for review and approval before proceeding.

Chart I:

Load	Min. Destructive Load [LBF] ([N])	Proof Load [LBF] ([N])
I	4000 (17.8K)	2000 (8.90K)
II	5000 (22.2K)	2500 (11.1K)
III	6000 (26.7K)	3000 (13.3K)
IV	7000 (31.1K)	3500 (15.6K)
V	8000 (35.6K)	4000 (17.8K)
VI	9000 (40.0K)	4500 (20.0K)
VII	10,000 (44.5K)	5000 (22.2K)
VIII	*11,000 (48.9K)	*5500 (24.5K)
IX	12,000 (53.4K)	6000 (26.7K)
X	13,000 (57.8K)	6500 (28.9K)
XI	14,000 (62.3K)	7000 (31.1K)
XII	15,000 (66.7K)	7500 (33.4K)
XIII		
XIV		
XV		
XVI		
XVII		
XVIII		
XIX		
XX		

*Use this when load is not specified on the drawing.