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**TYPICAL LOAD TEST SPECIFICATIONS FOR  
ROTATIONAL HOLDING FIXTURES**

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Version A



## **TYPICAL LOAD TEST SPECIFICATIONS FOR ROTATIONAL HOLDING FIXTURES**

Revision A, 02/13/10

### **I. DEAD WEIGHT LOAD, VISUAL INSPECTION**

1. Static load test
2. Vertical load only
3. 200 % vertical load, 0 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Paint and plating covers all welds
7. Visual inspect only for cracks, deformation, etc.

### **II SAME AS I PLUS TORQUE LOAD**

1. Static load test
2. Vertical and rotational torque loads (load weights are attached to test frame to allow rotation of frame and weights)
3. 200 % vertical load, 200 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Paint and plating covers all welds
7. Visual inspect only for cracks, deformation, etc.



### **III SAME AS I PLUS BARE WELDS AND DYE PENETRANT INSPECTION**

1. Static load test with masking of painted welds and sandblasting of plated welds to allow dye penetrant inspection. After inspection, welds are taped. The tape may be removed in the future for retesting and certifying.
2. Vertical load only.
3. 200 % vertical load, 0 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Inspect all welds with fluorescent dye penetrant per ASTM E1417-05, Type I, method A.
7. Tape welds.

### **IV SAME AS II PLUS BARE WELDS AND DYE PENETRANT INSPECTION**

1. Static load test with masking of painted welds and sandblasting of plated welds to allow dye penetrant inspection. After inspection, welds are taped. The tape may be removed in the future for retesting and certifying.
2. Vertical and rotational torque loads (load weights are attached to test frame to allow rotations of frame and weights)
3. 200 % vertical load, 200 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Inspect all welds with fluorescent dye penetrant per ASTM E1417-05, Type I, method A.
7. Tape welds.



**V SAME AS III BUT TESTED PRIOR TO PLATING & PAINTING**

1. Static load test prior to painting and plating to allow dye penetrant inspection. After inspection, fixtures are disassembled, plated and painted and reassembled.
2. Vertical load only
3. 200 % vertical load, 0 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Inspect all welds with fluorescent dye penetrant per ASTM E1417-05, Type I, method A.
7. Disassemble plate and paint fixture, reassemble.

**VI SAME AS IV BUT TESTED PRIOR TO PLATING AND PAINTING**

1. Static load test prior to painting and plating to allow dye penetrant inspection. After inspection, fixtures are disassembled, plated and painted and reassembled.
2. Vertical and rotational torque loads (load weights are attached to test frame to allow rotations of frame and weights)
3. 200 % vertical load, 200 % torque
4. Hold load for 5 minutes minimum
5. Customer may witness test
6. Inspect all welds with fluorescent dye penetrant per ASTM E1417-05, Type I, method A.
7. Disassemble plate and paint fixture, reassemble.



## **TYPICAL CONCERNS A CUSTOMER MAY WANT TO ADDRESS IN THE LOAD TESTING**

### **LOAD TESTING**

- A. Static vertical dead weight load only
- B. Retain dead weight load in the holding frame so that the frame may be rotated with the load.
- C. Simultaneous vertical and lateral loads. (This is expensive)
- D. Establish the test load. Usually it is 200% of rated load.
- E. Should the test include simultaneous vertical load and torque?
- F. Should the test include loading the casters or the jacks or transferring load from the casters to the jacks?
- G. Length of hold time. (Usually 5 minutes)
- H. Should the load be rotated during the test and how far?
- I. Does the customer have any government or company specifications that must be adhered to?
- J. Does the customer need to witness the test or have an independent contractor witness it (Such as Decisive Testing)?
- K. Does the customer desire to design or to have Flotron design the test frame?



## INSPECTION

- A. Is visual inspection after plating and painting adequate?
- B. Is dye penetrant inspection of welds required? If so, is masking the welds prior to inspection and taping the welds after inspection the desired approach because it allows the welds to be easily recertified in the future? Note that an alternative to taping the welds after inspection is to polish the welds with rust preventative polishing compound.
- C. If dye penetrant inspection is required, is load testing and inspection prior to plating and painting the desired approach? This requires the fixture to be assembled prior to plating and painting, tested, inspected, disassembled, plated and painted, and then reassembled.
- D. If dye penetrant inspection is required, is ASTM E1417-05 type I, method A acceptable? This is a fluorescent dye, water washable approach.
- E. Does the customer desire to witness the inspection or to have an independent company such as Decisive Testing witness the inspection?