

CHO-TRQC54  
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# TEST REPORT

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## Quality Control Test Specification Testing Procedure for Room Temperature and Hot Die Shear for THERMATTACH<sup>®</sup> Tapes

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Prepared by:

Chomerics  
Div. of Parker Hannifin  
16 Flagstone Drive  
Hudson, NH 03051

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CHOMERICS

 Parker Seals

# QUALITY CONTROL TEST SPECIFICATION Number 54

## TESTING PROCEDURE FOR ROOM TEMPERATURE AND HOT DIE SHEAR

### Scope of Document:

This specification establishes the procedure for testing die shear THERMATTACH® adhesive tapes at ambient and elevated temperature.

### References:

- 1) ASTM D-1002 Lap Shear Strength of Adhesives (sample preparation only).

### Test Specimen:

- 1) Six .750" x .750" Tape Pieces

### Apparatus:

- 1) Die, .500" x .500" x .020" (silicon or feeler stock)
- 2) Aluminum Panels, 2024 T3 Bare 1" x 4" x .063" or 1" x 1" x .063"
- 3) Razor Blade
- 4) Tweezers
- 5) Automatic Die Shear Tester, Hybrid Machine Products Corp. Model # 1760 or equivalent.
- 6) Abrasive Pads, Scotch Bright or equivalent
- 7) Methyl Ethyl Ketone
- 8) Paper Towels, Kimwipes or equivalent
- 9) Ametek Spring w/ Test Stand

### Procedure:

**(NOTE: FINGER OILS WILL AFFECT TEST RESULTS )**

- 1) Abrade one side of the aluminum panels with the Scotch Bright Pads.
- 2) Rinse panels with MEK. Wipe dry with paper towel.
- 3) Rinse dies with MEK. Dry with paper towel.
- 4) Remove the blue release film (embossed side) from the six THERMATTACH specimens with tweezers. *Be careful not to get finger oils on surface of the specimen.* Adhere the specimens to the center of the aluminum panels with equal spacing between them. Using the back side of the razor blade, scrape off the top

(clear) release film to ensure a good contact with no air bubbles between the THERMATTACH specimens and the aluminum panels.

**Procedure: (continued)**

5) Remove the top (clear) release film from THERMATTACH specimens with tweezers. *Be careful not to get finger oils on the surface of the specimen.* Adhere the dies in the centers of each THERMATTACH specimen with tweezers. *Be careful not to get finger oils on surface of the die.*

6) Place the specimen onto the bottom plate of the Ametek Test Stand with the dial gauge at zero. Turn the crank handle on front clockwise until the gauge reads 100 psi. Hold the pressure for 10 seconds and release slowly until you can remove the specimen. Repeat this procedure for each remaining specimen. Let samples equilibrate for 24 hours before shearing.

7) Place the aluminum test panel on the stage of the die shear tester with the NDL and speed dials at the "F" position.

8) Turn on the force gauge and shear test unit. Press the PEAK button until "C PEAK" is on the display. Zero out the display. Shear off the dies that are recording the strength values and zeroing the force gauge after each test.

**Reporting:**

- 1) Average the recorded values and calculate strength in PSI. (NOTE: For hot shear testing, leave the aluminum panel on the heated stage for 3 seconds before shearing any dies. Remove the test panel and allow it to cool to room temp after each shear test.)
- 2) Compute the PSI by multiplying the force on gauge by four.
- 3) Any material which does not meet its respective specification shall be reported to the Quality Manager.