**Aerosmith Fastening Systems**
**Technical Bulletin #106**

# 2359N SHEAR TEST MATRIX

(All coupons to be from 50 ksi steel)
*+++Table rows vs. Columns Reversed for ease of Printing

| Base Material **(To right in this row)** | 20 ga. | | | | 22 ga. | | | |
|---|---|---|---|---|---|---|---|---|
| Upper Mat'l **(Below in this column)** | Sample # | Max. Load, lbs. | Avg. Load, lbs. | Failure Mode Type | Sample # | Max. Load, lbs. | Avg. Load, lbs. | Failure Mode Type |
| 18 ga. | 1-2a | 734 | | C | 1-3a | 626 | | C |
| | 1-2b | 747 | | C | 1-3b | 589 | | C |
| | 1-2c | 704 | | C | 1-3c | 704 | | C |
| | 1-2d | 704 | | C | 1-3d | 577 | | C |
| | 1-2e | 534 | 684.6 | C | 1-3e | 527 | 604.6 | C |
| 20 ga. | | ***** 722.25 If sample e discounted** | | | 2-3a | 553 | | C |
| | | | | | 2-3b | 492 | | C |
| | | | | | 2-3c | 446 | | C |
| | | | | | 2-3d | 465 | | C |
| | | | | | 2-3e | 504 | 492 | C |

**Note 1:** Testing to be performed in theory as in AISI Standard CF 92-1 *Test Methods for Mechanically Fastened Cold-Formed Steel Connections* except that only one fastener was used per test sample vs. two called for.

***All maximum loads in pound force.

**Note 2:** **BASE MATERIAL MUST BE FOLLOWED-HEAVIER GAUGE IS BEING ATTACHED TO LIGHTER GAUGE.**
**Note 3:** Failure defined as point of loss of maximum tensile load.
**Note 4:** Loading rate range = 300 pounds/min. to 500 pounds/min.

| **Failure Mode Types** |
|---|
| A = Pin Fastener Pull-out<br>B = Pin Fastener Sheared<br>C = Base Material Tear or Fastener Hole Elongated |

| **Color Codes of Steel Ga. Of Sample Coupons** |
|---|
| 18 ga. = Pink/Red = 0.048 INCH<br>20 ga. = White = 0.0355 INCH<br>22 ga. = Blue = 0.0293 INCH |