

Toughness Verification Test

This is to state that the product indicated was tested according to the procedures shown. Mechanical properties and chemical analysis of the weld deposit were as shown.

Innershield NR-232

433AR4

| | | | |
|-----------------------|------------------------------|-----------------------|---------------------------------|
| Diameter (in.): 0.072 | Current Type & Polarity: DC- | Volts: 19 | Shielding Gas: Not Applicable |
| Code: 3A2GS | PHT (°F): 300 | WFS (ipm): 140 | Flow Rate (cfh): Not Applicable |
| Position: 3G-UP | INT (°F): 400 | Amps: 235 | |
| Thickness (in.): 0.75 | Yes Mechanized? | Avg HI (kJ/in): 56.05 | |
| | | CTWD (in): 0.625 | |

This product satisfies the requirements of FEMA 353, Appendix D after exposure for 1 week at 80°F, 80%RH.

Charpy V-notch Test Results

| Temp. (°F) | Energy (ft-lbf) |
|------------|-----------------|
| 0 | 50 |
| | 50 |
| | 50 |
| 70 | 85 |
| | 85 |
| | 85 |

Tensile Test Results

| Aging | UTS (ksi) | YP (ksi) | YS (ksi) | EL (%) |
|------------|-----------|----------|----------|--------|
| 48HRS@220F | 87 | 65.3 | 61.7 | 29 |

Chemical Test Results

| C | S | Mn | Si | P | Al | Ni |
|-------|--------|------|------|-------|------|------|
| 0.206 | <0.003 | 0.74 | 0.34 | 0.005 | 0.41 | 0.01 |

State of Ohio, County of Cuyahoga
 Subscribed and sworn to before me this
10th day of April, 2002
Britisa K. Lesiacsek
 Notary Public
 My commission expires September 23, 2004

Dennis K. Hartman
 Dennis K. Hartman, Certification Supervisor

David A. Fink
 David A. Fink, Manager, Mature Products Consumable R&D

This information is provided solely for the purpose of confirming product conformance with applicable standards. The serviceability of a product or structure utilizing this type of information is and must be the sole responsibility of the builder/user. Many variables beyond the control of The Lincoln Electric Company affect the results obtained in applying this type of information. These variables include, but are not limited to, welding procedure, shielding gas, plate chemistry and temperature, weldment design, fabrication methods and service requirements.