



UNITED STATES WELDING CORPORATION

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|--|---|---------|--|---|--------|------|------|------|------|------|------------------|------|------|-------------------|------|---|----------------------|---|------|-----------|--|---------|
| USW ALLOY DESIGNATION AND BRIEF DESCRIPTION | EZ33A GTAW SOLID BARE WELDING WIRE MAGNESIUM BASE | | ISSUED JANUARY 2007 | DATA SHEET 4396 (4) | | | | | | | | | | | | | | | | | | |
| | | | REVISION NO. A | | | | | | | | | | | | | | | | | | | |
| CROSS-REFERENCE CONFORMANCE SPECIFICATIONS | AMS 4396 MSRR 9500/50 EZ33A UNS M12330 ZRE1 MIL-R-6944 USWC 4396 (C) AFNOR G-TRZ2 AWS A5.19 R-EZ33A | | | | | | | | | | | | | | | | | | | | | |
| METALLURGICAL BACKGROUND INFORMATION | EZ33A is a Mg - Rare Earth - Zn - Zr alloy which is widely used for joining alloys for elevated temperature use. | | | | | | | | | | | | | | | | | | | | | |
| MATERIALS TO BE WELDED APPLICATION AND ADVICE | MSRR 8013, 2L126, 2L128, MAG6, AMS 4442, ZR1 to ZTY (MSRR 8015) ASTM B80, QQ-M-56B HK31A, HM21A, HM31A, QE22A to HK31A, | | | | | | | | | | | | | | | | | | | | | |
| WIRE CHEMISTRY WT% | <table> <tr> <td>Cerium</td> <td>2.50</td> <td>4.00</td> </tr> <tr> <td>Zinc</td> <td>2.00</td> <td>3.10</td> </tr> <tr> <td>Zirconium, Total</td> <td>0.45</td> <td>1.00</td> </tr> <tr> <td>Zirconium Soluble</td> <td>0.45</td> <td>-</td> </tr> <tr> <td>Other Elements Total</td> <td>-</td> <td>0.30</td> </tr> <tr> <td>Magnesium</td> <td></td> <td>Balance</td> </tr> </table> | | | | Cerium | 2.50 | 4.00 | Zinc | 2.00 | 3.10 | Zirconium, Total | 0.45 | 1.00 | Zirconium Soluble | 0.45 | - | Other Elements Total | - | 0.30 | Magnesium | | Balance |
| Cerium | 2.50 | 4.00 | | | | | | | | | | | | | | | | | | | | |
| Zinc | 2.00 | 3.10 | | | | | | | | | | | | | | | | | | | | |
| Zirconium, Total | 0.45 | 1.00 | | | | | | | | | | | | | | | | | | | | |
| Zirconium Soluble | 0.45 | - | | | | | | | | | | | | | | | | | | | | |
| Other Elements Total | - | 0.30 | | | | | | | | | | | | | | | | | | | | |
| Magnesium | | Balance | | | | | | | | | | | | | | | | | | | | |
| WELD PROPERTIES | Melting Range 1013° F - 1184° F | | | | | | | | | | | | | | | | | | | | | |
| SIZES AND FORMS OF SUPPLY | STRAIGHT LENGTHS 5 lbs. (2.2kg) packs 36" (914mm) lengths Flag tagged for traceability. (Double tagging and other lengths on request) Wide range of diameters. | | SPOOLED WIRE Precision layer wound, with controlled cast and helix 12" (300mm) diameter spools standard 8" (200mm), 4" (100mm) and proprietary spool sizes on request. Wide range of diameters and spool weights. | | | | | | | | | | | | | | | | | | | |
| PACKAGING | Sealed, air-evacuated, argon filled Vapor Barrier containers with desiccants ensure full protection from atmospheric contamination and prolonged shelf-life. | | | | | | | | | | | | | | | | | | | | | |
| DISTRIBUTED BY: | | | | | | | | | | | | | | | | | | | | | | |