

# Manual Metal Arc Electrodes

General Purpose MMA Electrodes

## Zodian Universal



AWS A/SFA 5.1-91 E6013  
EN 499 E 38 0 RC 11  
EN ISO 2560-A E 38 0 RC 11

### Description and applications

A versatile rutile-cellulosic electrode for welding in all positions, including vertical down.

### Approvals

ABS : 2                      DNV : 2                      MOD : MS<25mm,  
BV : 2                      LR : 2                      CE EN 13479

### All-weld metal properties

Composition wt%

	Min	Max
C	0.04	0.10
Si	0.20	0.40
Mn	0.30	0.60
S		0.03
P		0.03

### Mechanical

YS	380 min	N/mm <sup>2</sup>
UTS	470-600	N/mm <sup>2</sup>
Elongation	24 min	%
Charpy V impact values	at 0°C	47 min ave J

### As-welded

**Current range** AC (min OCV 50) or DC +/-

Size (mm)	2.5	3.2	4.0	5.0	6.0
Current (amps)	70-95	90-120	130-190	180-230	220-300