

CLASSIFICATION

AWS A5.4 : E307-16*
 ISO 3581-A : E 18 8 Mn R 12 *:Deviation,see remarks

TEMPERATURE RANGE

Pressurized parts :-60 ...+350°C
 Oxidation resistance : n.a

GENERAL DESCRIPTION

A rutile- basic all position 5%Mn-alloyed stainless steel electrode
 Especially developed for steels difficult to weld, such as armour lates and austenitic high Mn-steels
 Often used as a buffer layer in hardfacing applications
 Weldable on AC and DC+ polarity

WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F



PC/2G



PF/3Gu



PE/4G



PH/5Gu

CURRENT TYPE

AC/DC +

APPROVALS

TÜV

+

CHEMICAL COMPOSITION (W%), TYPICAL, ALL WELD METAL

C	Mn	Si	Cr	Ni	FN [acc.WRC 1992]
0.09	5.0	0.6	18.5	8.5	0

MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength [N/mm ²]	Tensile strength [N/mm ²]	Elongation [%]	Impact ISO-V(J)	
				+20°C	-60°C
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 350 450	min. 590 min. 500 650	min. 30 min. 25 35	not required not required 110	75

PACKAGING AND AVAILABLE SIZES

Unit: carton box	Diameter (mm)	2.5	3.2	4.0
	Length (mm)	350	350	350
Pieces / unit	125	135	85	
Net weight/unit (kg)	2.6	4.7	4.6	

Identification

Imprint: AROSTA 307

Tip Color: dark blue

Arosta 307: rev. EN 23

All information in this data sheet is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.eu for any updated information.
 Fumes: Material Safety Data Sheets (MSDS) are available on our website.

Arosta[®] 307

EXAMPLES OF MATERIALS TO BE WELDED

Various steel grades, such as:

- Armour plate
- Hardenable steels including steels difficult to weld
- Non-magnetic austenitic steels
- Work hardening austenitic manganese steels
- Dissimilar joints
- Problem steels

SMAW

CALCULATION DATA

Sizes		Current type	Arc time - per electrode at max. current - (S)*	Energy E(kJ)	Dep. rate H(kg/h)	Weight/ 1000 pcs (kg)	Electrodes/ kg weldmetal B	kg electrodes/ kg weldmetal 1/N
Diam. x length (mm)	Current range (A)							
2.5 x 350	70-80	DC+	52	108	0.74	20.4	94	1.92
3.2 x 350	90-120	DC+	56	148	1.2	34.7	54	1.87
4.0 x 350	110-140	DC+	84	251	1.3	53.6	33	1.77

*Stub end 35mm

WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions					
	PA/1G	PB/2F	PC/2G	PF/3Gup	PE/4G	PH/5Gup
2.5	80A	80A	80A	80A	80A	80A
3.2	100A	100A	100A	90A		
4.0	140A	115A	130A	110A		

REMARKS / APPLICATION ADVICE

Deviations: chemical composition

Mn = 4.5 - 6.0%

AWS: Mn = 3.30 - 4.75%