

# Arosta<sup>®</sup> 307-160

SMAW

## CLASSIFICATION

AWS A5.4 : E307-26\*  
 ISO 3581-A : E 18 8 Mn R 53 \* Nearest classification, see remarks

## GENERAL DESCRIPTION

A rutile 6%Mn-alloyed stainless steel electrode  
 Especially developed for steels difficult to weld, such as armour plates and austenitic high Mn-steels  
 Often used as a buffer layer in hardfacing applications  
 Weldable on DC+ polarity

## WELDING POSITIONS (ISO/ASME)



PA/1G



PB/2F

## CURRENT TYPE

AC/DC +

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

C	Mn	Si	Cr	Ni
0.06	6.0	1.0	18.0	8.0

## MECHANICAL PROPERTIES, TYPICAL, ALL WELD METAL

Condition	0.2% Proof strength (N/mm <sup>2</sup> )	Tensile strength (N/mm <sup>2</sup> )	Elongation (%)	Impact ISO-V(J)	
				+20°C	-10°C
Required: AWS A5.4 ISO 3581-A Typical values	not required min. 350 425	min. 590 min. 500 650	min. 30 min. 25 35	not required not required 85	60

## PACKAGING AND AVAILABLE SIZES

Unit: carton box	Diameter (mm)	3.2	4.0	5.0
	Length (mm)	350	450	450
Pieces / unit	Pieces / unit	94	62	40
	Net weight/unit (kg)	4.7	6.0	6.0

Identification Imprint: AROSTA 307-160 Tip Color: red

Arosta<sup>®</sup>307-160: rev. EN 05

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](http://www.lincolnelectric.eu) for any updated information.  
 Fumes: Material Safety Data Sheets (MSDS) are available on our website.

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## 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 steel grades (CMn-steels to stainless steel)

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## 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)							
3.2 x 350	110-150	DC+	53	132	1.4	29.1	48	1.39
4.0 x 450	140-200	DC+	86	264	1.7	55.9	25	1.41
5.0 x 450	210-260	DC+	82	388	2.7	85.3	16	1.39

\*Stub end 35mm

## WELDING PARAMETERS, OPTIMUM FILL PASSES

Diameter (mm)	Welding positions		
	PA/1G	PB/2F	PC/2G
3.2	150A	140A	140A
4.0	200A	180A	160A
5.0	230A	230A	

## REMARKS / APPLICATION ADVICE

Deviations: chemical composition

Mn = 4.5 - 7.5%

Cr = 17.0 - 20.0%

Ni = 7.0 - 10.0%

AWS: Mn = 3.30 - 4.75%

AWS: Cr = 18.0 - 21.5%

AWS: Ni = 9.0 - 10.7%