

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9	EN ISO 14174
S Z 17 Mo	ER430 (mod.)	S A FB 2 DC

Characteristics and typical fields of application

Thermanit 1720 - Marathon 203 is a wire/flux combination for submerged arc welding of matching ferritic and similar quenched and tempered Cr-steels and cast steel grades.

Solid wire of S Z 17 Mo / ER430 (mod.) type for surfacing on sealing faces of gas, water and steam valves and fittings made from unalloyed or low-alloy steels, for service temperatures up to 450°C. Corrosion resistance similar to matching 17 Cr steels in seawater, diluted organic and inorganic acids. Excellent anti-friction properties. The weld deposit is still machinable. Scaling resistant up to 900°C.

Marathon 203 is a fluoride-basic, agglomerate flux providing good operating characteristics, smooth beads and a low hydrogen weld metal. For more information regarding this sub-arc welding flux, see the separate datasheet. The former product name of the SAW flux was "BÖHLER BB 203".

Base materials

Surfacings: All weldable materials, unalloyed, low-alloyed

Joint welds: Corrosion resistant Cr-steels as well as other similar-alloyed steels with C-contents up to 0.20% (repair welding).


Typical analysis

wt.-%	C	Si	Mn	Cr	Ni	Mo
wire	0.20	0.60	0.60	17.5	0.40	1.1
all-weld metal	0.15	0.70	0.55	17.0	0.40	1.1

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Hardness
	HB
u	320 – 420
a1	200
u untreated, as-welded	
a1 720°C for 2 h	

Operating data

	Dimension mm	Current A	Voltage V
	2.4	300 – 400	29 – 33
	3.2	350 – 500	29 – 33

Polarity: DC+. Preheating as required by the base metal. Thicker matching ferritic steels can be preheated to 150 – 300°C.

Surfacing of thicker unalloyed, low-alloyed or high strength steels may require preheating to 100 – 250°C.

For the reduction of stresses induced by welding, matching ferritic steels can be annealed at 800°C followed by air cooling.

Lowest possible heat input is required as ferritic 17Cr steels are susceptible to embrittlement due to coarse grain growth.

Approvals

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