FLUX UP BF10

Agglomerated Welding Flux
Fluoride-basic type

Classification

ISO 14174 S A FB 1 55 AC H5

Description & Applications

Fluoride-Basic agglomerated Flux for submerged arc welding (SAW-process) with high basicity and low impurity levels such as P and S. As a result of low oxygen levels in the weld deposits, uniform mechanical properties with high toughness values at low temperature are achieved. Because of almost neutral slag-reactions the chemical analysis of the weld metal can be excellently controlled through the selection of appropriate wire electrodes. For construction steels with yield strength up to 460MPa, cold tough steels for low temperature application down to -60°C or below, fine grain steels as S690QL and boiler/vessel steels like 16Mo3/A204 gr A, 13CrMo4-5/A387 gr 12 or 10CrMo9-10/A387 gr 22.

Could be used on DC and AC welding, using single or tandem wire.

Wires recommended for

ISO 14341-A	***AWS A5.17***
S2	EM12
S3	EH10K
S3Si	EH12K
S2Mo	EA2
S2Ni1	ENi1
S2Ni2	ENi2
S2Ni3	ENi3
S3Ni1Mo0.2	ENi5
S3Ni1.5Mo	~EM2
ISO 26304-A	***AWS A5.23***
S3Ni1Mo	EF3
S3Ni2.5CrMo	~EM4
ISO 24958-A	***AWS A5.23***
S S CrMo1	EB2R
S S CrMo2	EB3R

Typical Chemical Composition (%)

$SiO_2 + TiO_2$	$Al_2O_3 + MnO$	CaO + MgO	CaF_2	Basicity according To Boniszewski
15	20	40	25	~3.0

Flux Properties

Density (kg / dm³)	Grain size ISO 14174	Current carrying capacity
0.95	2-20 ; Tyler 8x65	Up to 800 A (AC or DC) using one wire

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All Weld Metal Typical Chemical analysis (%)

Wire	C	Si	Mn	Cr	Ni	Mo
S2	0.05-0.09	0.1-0.3	1.1-1.5			
S3	0.05-0.09	0.1-0.3	1.5-1.9			
S3Si	0.05-0.09	0.2-0.5	1.1-1.5			
S2Mo	0.05-0.09	0.1-0.3	1.5-1.9			0.5
S2Ni1	0.05-0.09	0.1-0.3	1.1-1.5		1.0	
S2Ni2	0.05-0.09	0.1-0.3	1.5-1.9		2.0	
S2Ni3	0.05-0.09	0.1-0.3	1.1-1.5		3.0	
S3Ni1Mo0.2	0.05-0.09	0.2-0.4	1.1-1.5		1.0	0.25
S3Ni1.5Mo	0.05-0.09	0.1-0.3	1.2-1.6		1.6	0.4
S3Ni1Mo	0.05-0.09	0.1-0.3	1.2-1.6		1.0	0.5
S3Ni2.5CrMo	0.05-0.09	0.1-0.3	1.2-1.6	0.5	2.5	0.5
S S CrMo1	0.05-0.09	0.1-0.3	0.5-0.9	1.2		0.5
S S CrMo2	0.05-0.09	0.1-0.3	0.4-0.7	2.3		1.0

All Weld Metal Typical Mechanical properties

Wire		$R_{p0,2}$ (MPa)	R_m (MPa)	A (%)	KV (J) RT	-20°C	-40°C	-60°C	-80°C
S2	AW	>400	>490	>26	120	>100	>70	>47	
S3	AW	>470	>560	>25	>120	>100	>80	>47	
	S*	>400	>500	>28	>120	>100	>80	>47	
S3Si	AW	>470	>550	>25	>120	>100	>80	>47	
	S*	>400	>490	>23	>110	>80	>60	>47	
S2Mo	AW	>490	>570	>23	>100	>90	>47		
	S**	>440	>530	>24	>100	>90	>47		
S2Ni1	AW	>440	>540	>26	>160	>140	>120	>90	>47 (-70°C)
S2Ni2	AW	>470	>550	>25	>160	>140	>120	>80	>47
	S*	>420	>520	>26	>160	>140	>120	>90	>47
S2Ni3	AW	>500	>590	>24	>160	>150	>120	>100	>27 (-101°C)
	S*	>470	>560	>25	>160	>150	>120	>100	>27 (-101°C)
S3Ni1Mo0.2	AW	>480	>560	>26	>160	>140	>120	>47	
	S*	>470	>550	>26	>160	>150	>120	>47	
S3Ni1.5Mo	AW	>590	>690	>22	>140	>100	>80		
	S***	>570	>660	>22	>150	>100	>70		
S3Ni1Mo	AW	>570	>670	>22	>140	>110	>80	>47	
	S*	>550	>640	>22	>150	>110	>80	>47	
S3Ni2.5CrMo	AW	>690	>820	>18	>140	>90	>70	>47	
S S CrMo1	S****	>470	>570	>22	>100	>47			
S S CrMo2	S****	>470	>570	>23	>100	>47			

After PWHT: * 590°C/15h - ** 620°C/15h - *** 605°C/2h - **** 700°C/10h

Storage Recycling and Drying

It is recommended to store and use the flux up to 1 year after delivery in dry storage rooms. Nevertheless, the flux can be used even if stored for more than one year, just requires the user to make a weldability test to check if all is well.
Drying conditions specific to the flux: 300-350°C. Supplied in moisture proof packaging.

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