DAIKOFLUX 490-W

SAW

PRODUCT DESCRIPTION

It is a fluoride-basic flux with high basicity and low impurities level such as P and S.
As a result of low oxygen level in the weld metal high toughness at low temperature and uniform mechanical properties are achieved. It is suitable for welding on DC and AC using single and tandem wire processes.

APPLICATION

The low hydrogen levels after redrying and the optimum mechanical properties enables welding of thick-walled construction steels with yield strength up to 420 MPa, off-shore application with YS up to 460 MPa on base materials like BS 4360-Grade 50 D and S355 2G3 according to EN 10025, fine grain structural steel for low temperature requirements with impact toughness at -60 °C or below, high tensile fine grain steel such as S690QL1 and N-A-XTRA® 70, boiler and pressure vessels steels such as 16Mo3/A204 grade A, 13CrMo4-5/A387 grade 12 grade 22.

SPECIFICATION

Flux type	Fluoride-basic
Boniszewski index (B.I.)	~
Classification EN ISO 14174	S A FB 1 55 AC H5
Grain size EN ISO 14174	2-20
Density	0.95 kg/dm³
Process	SAW
Current	DC or AC, up to 800 A using one wire electrode
Redrying	300-350 °C effective temperature of the flux for 2h
Packaging	25 kg plastic bag/metallic drum

Typical chemical analysis of the flux (%)

SiO_2+TiO_2	Al_2O_2+MnO	CaO + MgO	CaF_2
15	20	40	25

Typical chemical analysis of the all weld metal (%)

In combination with wire electrode	AWS A5.17 AWS A5.23	C%	Si%	Mn%	Mo%	Ni%	Cr%
DAIKOWS S2/S2Si	EM12K	0.05-0.09	0.1-0.5	0.8-1.2	-	-	-
DAIKOWS S3Si	EH12K	0.05-0.09	0.2-0.5	1.2-1.6	-	-	-
DAIKOWS Mo.B	EA2	0.05-0.09	0.1-0.3	0.8-1.2	0.5	-	-
DAIKOWS 1Ni	ENi1	0.05-0.09	0.1-0.3	0.8-1.2	-	1.0	-
DAIKOWS 2Ni	ENi2	0.05-0.09	0.1-0.3	0.8-1.2	-	2.0	-
DAIKOWS 3Ni	ENi3	0.05-0.09	0.1-0.3	0.8-1.2	-	3.0	-
DAIKOWS S3NiMo	EF3	0.05-0.09	0.1-0.3	1.2-1.6	0.5	1.0	-
DAIKOWS 1CrMo	EB2	0.05-0.09	0.1-0.3	0.5-0.9	0,5	-	1.2
DAIKOWS 2CrMo	EB3	0.05-0.09	0.1-0.3	0.4-0.7	1	-	2.3

Mechanical properties of all weld metal

In combination with wire electrode	Heat treat.	YS [MPa]	UTS [MPa]	El. [%]	Impcat ISO-V [Joule] RT	-20 °C -4 °F	-40 °C -40 °F	-60 °C -76 °F	-80 °C -112 °F
DAIKOWS S2/S2Si	AW	≥400	≥490	≥26	≥120	≥100	≥70	≥47	-
DAIKOWS S3Si	AW	≥470	≥550	≥25	≥120	≥100	≥80	≥47	-
DAIKOWS S3Si	PWHT (1)	≥430	≥530	≥26	≥120	≥100	≥90	≥47	-
DAIKOWS Mo.B	AW	≥490	≥570	≥23	≥100	≥90	≥47	-	-
DAIKOWS Mo.B	PHWT (2)	≥440	≥530	≥24	≥100	≥90	≥47	-	-
DAIKOWS 1Ni	AW	≥440	≥540	≥26	≥160	≥140	≥120	≥90	≥47(*)
DAIKOWS 2Ni	AW	≥470	≥550	≥25	≥160	≥140	≥120	≥80	≥47
DAIKOWS 2Ni	PWHT (1)	≥420	≥520	≥26	≥160	≥140	≥120	≥90	≥47
DAIKOWS 3Ni	AW	≥500	≥590	≥24	≥160	≥150	≥120	≥100	≥27(**)
DAIKOWS 3Ni	PHWT (1)	≥470	≥560	≥25	≥160	≥150	≥120	≥100	≥27(**)
DAIKOWS S3NiMo	AW	≥570	≥670	≥22	≥140	≥110	≥80	≥47	-
DAIKOWS S3NiMo	PWHT (1)	≥550	≥640	≥22	≥150	≥110	≥80	≥47	-
DAIKOWS 1CrMo	PWHT (3)	≥470	≥570	≥22	≥100	≥47	-	-	-
DAIKOWS 2CrMo	PWHT (3)	≥470	≥570	≥23	≥100	≥47	-	-	-

Heat treatment: AW = as welded
PWHT = post weld heat treatment (1) at 580 °C x 1 hours; (2) at 620 °C x 15 hours

All-weld metal multiple pass classification of wire-flux combinations

In combination with wire electrode	AWS A5.17 AWS A5.23	ISO 14171-A ISO 26304-A ISO 24598-A	AWS A5.17M AWS A5.23M	AWS A5.17 AWS A5.23
DAIKOWS S2/S2Si	EM12-K	S 38 6 FB S2	F48A6/P6-EM12K	F7A8/P8-EM12K
DAIKOWS S3Si	EH12K	S 46 6 FB S3Si	F55A6/F49P6-EH12K	F8A8/F7P8-EH12K
DAIKOWS Mo.B	EA2	S 46 4 FB Mo.B	F55A4/F49P4-EA2-A2	F8A4/F7P4-EA2-A2
DAIKOWS 1Ni	ENi1	S 42 7 FB 1Ni	F49A7/P7-ENi1-Ni1	F7A10/P10-ENi1-Ni1
DAIKOWS 2Ni	ENi2	S 46 8 FB 2Ni	F55A7/F49P7-ENi2-Ni2	F8A10/F7P10-ENi2-Ni2
DAIKOWS 3Ni	ENi3	S 50 8 FB 3Ni	F55A7/P7-ENi3-Ni3	F8A10/P10-ENi3-Ni3
DAIKOWS S3NiMo	EF3	S 55 6 FB S3NiMo	F62A6/P6-EF3-F3	F9A8/P8-EF3-F3
DAIKOWS 1CrMo	EB2-R	S CrMo1 FB	F55P2-EB2R-B2R	F8P0-EB2R-B2R
DAIKOWS 2CrMo	EB3-R	S CrMo2 FB	F55P2-EB3R-B3R	F8P0-EB3R-B3R