JATLAS

IRON AND STEEL
PRODUCTS

Welding Fluxes

GROUP 1:

- **Pre-Mixed Welding Fluxes**

Jooshiran Flux Designation	Classification	Equivalent Brands
A-RUTILE TYPE , UNALLOYED		
J.R.1	E6013	46.00
J.R.2	E6013	-
J.R.3	E6013	-
J.R.4	E6013	43.32
B-HIGH RECOVERY TYPE:		
J.H.1	E7024	33.65
J.H.2	E7028	38.48
C-CELLULOSIC TYPE:		
J.C.6	E6010	6010
J.C.7	E7010-A1	7010
J.C.8	E8010-G	8010
D-BASIC TYPE UNALLOYED&LOW ALLOYED:		
J.B.6	E7016	53.04
J.B.8	E7018	48.00
J.B.8-1	E7018-1	48.68
E-FINE GRAIN&SPECIAL-PURPOSE:		
J.L.1	E8018-G	73.08
J.L.2	E1008-G	75.75
J.L.3	E12018-G	-
F-CREEP RESISTING STEELS:		
J.L.4	E8013-G	-
J.L.5	E7018-A1	-
J.L.6	E8018-B2	76.18
J.L.7	E9018-B3	76.28

Jooshiran Flux Designation	Classification	Equivalent Brands
G-STAONLESS& HEAT RESISTING STEELS		
J.S.1	E307-15	-
J.S.2	E307-16	-
J.S.3	E308L-15	61.35
J.S.4	E308L-16	61.35
J.S.5	E309Mo-16	67.62
J.S.6	E309L-16	67.60
J.S.7	E310-15	67.15
J.S.8	E410-15	68.15
J.S.9	E312-16	-
J.S.10	E316L-16	63.2
J.S.11	E318.16	-
J.S.12	E347-16	-
H-HARDFACING APPLICATIONS:		
J.F.1	EFeMn	86.08
J.F.2	-	-
J.F.3	-	-
J.F.4	EFe5-B	85.65
1-CAST IRON:		
J.Ni	E Ni-CI	92.18
J.Ni.Fe	E.NiFe-CI	92.58
J.Ni.CU	E Ni-Cu-B	92.86
K.GOUGING&CUTTING:		
J.X.1	-	21.03

GROUP 2:

- **JR9**

Type: Acid

EN760: SA AR 1 97 AC

Basicity Index: 0.4

Density: Approx. 1.20 kg/dm^3

MAIN CONSTITUENTS %			
SiO_2+ TiO_2	CaO + MgO	AL_2O_3+MnO	CaF_2
30	-	50	10

JR9 is an agglomerated welding flux designed for welding general Structural steel, pipe and pressure Vessel steel, and fine grain structural steels.

- Suitable for use on direct (+) and alternating current up to 800A.
- It can be employed for single and multi-wire Welding at a high welding speed using two-run technique as well as for fillet welding.
- Owing to easy slag removal it is recommended for fillet welding

- **JR8**

Type: Acid

EN760: SA AR 1 88 AC

Basicity Index: 0.5

Density: Approx. 1.20 kg/dm^3

MAIN CONSTITUENTS %			
SiO_2+ TiO_2	CaO + MgO	AL_2O_3+MnO	CaF_2
30	-	55	5

JR8 is an agglomerated welding flux designed for welding general Structural steels , pipe and pressure vessel steels , and fine grain structural steels.

- Most Suitable for applications where dilution of base metal is high i.e., in fillet welding & butt welding of thin & semi thick plates with small number of passes.
- Owing to acid slag system, high travel speed in butt welding & excellent slag removal & good bead shape and surface finish.
- Suitable for use on direct (+) and alternating current up to 1000A.

• JFB

Type: Basic

EN760: SA FB 1 65 AC HP5

Basicity Index: 1.7

Density: Approx. 1.10 kg/dm^3

MAIN CONSTITUENTS %			
SiO_2+ TiO_2	CaO + MgO	AL_2O_3+MnO	CaF_2
20	30	25	20

JFB is an agglomerated welding flux of the fluoride basic type, designed for one and multi wire welding with DC (+) or AC up to 1200 A.

- Suitable for narrow gap welding of fine-grained structural steels up to 420 N/mm^2 yield strength, specially for offshore steels.
- Due to low density of JFB its consumption is low.

• JCS

Type: Acid

EN760: SA CS 1 98 AC

Basicity Index: 1.10

Density: Approx. 1.10 kg/dm^3

MAIN CONSTITUENTS %			
SiO_2+ TiO_2	CaO + MgO	AL_2O_3+MnO	CaF_2
40	20	25	10

JR9 is an agglomerated welding flux designed for welding general Structural steel, pipe and pressure Vessel steel, and fine grain structural steels.

- Suitable for single & multi-pass welding. Slag removal is easy. Very economical flux consumption approx. 0.8 kg flux to 1 kg wire.
- It is particularly recommended for twin-wires, tandem & multi- wire welding at relatively high speeds . It can be used on direct & alternating current up to 1000 Min single wire welding).

- ## JAB-23

Type: Acid

EN760: SA AB 1 67 AC

Basicity Index: 1.00

Density: Approx. 1.20 kg/dm^3

MAIN CONSTITUENTS %			
SiO_2+ TiO_2	CaO + MgO	AL_2O_3+MnO	CaF_2
20	20	45	10

JB-23 is an agglomerated welding flux designed for welding general Structural steel, pipe and pressure Vessel steel, and fine grain structural steels.

- Suitable for use on direct (+) and alternating current up to 800A.
- It can be employed for single and multi-wire Welding at a high welding speed using two-run technique as well as for fillet welding.
- **Packaging:**

Packaging in 25 kg paper with P.E inner bag and coated barrels are 80 and 200 kg.

GROUP 3&4:

- **Jooshiran S.A.W Wires**

Jooshiran Symbol	EN 756	A.W.S A5.17. A5.23	DIN 8557	C%	Si%	Mn%	S%	P%	Mo%	Ni%	Cr%	CU%
JIS1	S1	EL12	S1	0.05-0.15	0.15«	0.35-0.60	0.05«5	0.05«5	0.15«	0.15«	0.15«	0.35
JIS2	S2	EM12	S2	0.07-0.15	0.15«	0.80-1.30	0.02«5	0.02«5	0.15«	0.15«	0.15«	0.35
JIS3	S3	EH12K	S3	0.07-0.15	0.15«	1.30-1.75	0.02«5	0.02«5	0.15«	0.15«	0.15«	0.35
JIS4	S4	EH14	S4	0.07-0.15	0.15«	1.75-2.25	0.02«5	0.02«5	0.15«	0.15«	0.15«	0.35
JIS2Si	S2Si	EM12K	S2Si	0.07-0.15	0.15-0.40	0.80-1.30	0.05«5	0.05«5	0.15«	0.15«	0.15«	0.35
JIS2Si2	S2Si2	EM13K	-	0.07-0.15	0.40-0.60	0.80-1.30	0.02«5	0.02«5	0.15«	0.15«	0.15«	0.35
JIS3Si	S3Si	-	S3Si	0.07-0.15	0.15-0.60	1.30-1.85	0.02«5	0.02«5	0.15«	0.15«	0.15«	0.35
JI1Mo	S1Mo	EA1	-	0.05-0.15	0.05-0.25	0.35-0.60	0.02«5	0.02«5	0.45-0.65	0.15«	0.15«	0.35
JIS2Mo	S2Mo	EA1-EA2	S2Mo	0.07-0.15	0.05-0.25	0.80-1.30	0.05«5	0.05«5	0.45-0.65	0.15«	0.15«	0.35
JIS4Mo	S4Mo	ED1-EA3	S4Mo	0.07-0.15	0.05-0.25	1.75-2.25	0.02«5	0.02«5	0.45-0.65	0.15«	0.15«	0.35

- **Packaging**

Dia (mm)	1.2-1.6-2.0-3.0-4.0
weight (kgs)	15&25
Hospel (kgs)	250&400
Approvals	GL.DNV.BV

- **Thermit Compounds**

Thermit for seam welding of train and subway rails

• Welding: G3Si1 (SG2)

Production standard: DIN EN 440 (DIN 8559)

Chemical analysis of wires

Element	C	Mn	Si	P	S	CU
Percentage	0.06-0.14	1.30-1.60	0.70-1.00	0.025	0.035	0.35

Mechanical properties of welding

Tensile Strength (MPa)	Yield Strength (MPa)	%E
440-720	≥355	≥22

• Welding: G4Si1 (SG3)

Production standard: DIN EN 440 (DIN 8559)

Chemical analysis of wires

Element	C	Mn	Si	P	S	CU
Percentage	0.06-0.14	1.60-1.90	0.80-1.20	0.025	0.035	0.35

Mechanical properties of welding

Tensile Strength (MPa)	Yield Strength (MPa)	%E
440-720	≥355	≥22

• Welding: ER 70S-6

Production standard: AWS/A5.18 ASME SFA/A5.18

Chemical analysis of wires

Element	C	Mn	Si	P	S	CU
Percentage	0.06-0.15	1.40-1.85	0.80-1.15	0.025	0.035	0.50

Mechanical properties of welding

Tensile Strength (MPa)	Yield Strength (MPa)	%E
≥480	≥400	≥22

• Welding Filler ER 70S-6

Technical Specification:

Filler Diameter(mm): 1.1, 1.6, 2.0, 2.4, 3.2, 4.0, 4.8

Filler Length(mm):1000, 900

Chemical analysis of wires

Element	C	Mn	Si	P	S	CU
Percentage	0.06-0.15	1.40-1.85	0.80-1.15	0.025	0.035	0.50

Mechanical properties of welding

Tensile Strength (MPa)	Yield Strength (MPa)	%E
≥480	≥400	≥22


DNV
UKAS
QUALITY
MANAGEMENT
BUREAU VERITAS
1828
BUREAU
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SYSTEM
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HEALTH
and
SAFETY
OHSAS 18001
ISOQAR
QUALITY
ASSURED
ISO 9001
CE
GERMANISCHER LLOYD
1867
American Welding Society
AFFILIATE COMPANY
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ISO 9001
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