SA- A14

CORMET 1V

ALL POSITIONAL RUTILE FLUX CORED WIRE FOR CrMoV CREEP RESISTING STEELS

PRODUCT DESCRIPTION

Cormet 1V is an all-positional flux cored wire suitable for welding fixed pipework. Made using high purity steel sheath with a metal recovery of about 90% with respect to the wire.

CLASSIFICATIONS

AWS A5.36M	E91T1-C1PZ-G-H4 or E91T1-M21PZ-G-H4 (dependent on shielding gas)

ALLOY TYPE

1¼Cr-½Mo-V alloyed steel consumables for elevated temperature service

MATERIALS TO BE WELDED

ASTM

A389 grade C24 (cast)
A356 grade (cast)

DIN

21 CrMoV 5 11 (1.8070)
15 CrMoV 5 10 (1.7745)
GS-17CrMo 5 11 (1.7706) (cast)

EN

G17CrMoV5-10 (1.7706)

GE

B50A224

APPLICATIONS

CrMoV base materials provide good creep rupture propreties up to about 580°C, with a reasonable degree of corrosion resistance in superheated steam.
Typical applications for the cast materials include valve casings ans steam turbines, general use for boilers, pressure vessels in the power generation and petrochemical industries.

MICROSTRUCTURE

After PWHT, the microstructure consists of tempered bainite.

CHEMICAL COMPOSITION (WELD METAL WT %)

	C	Mn	Si	S	P	Cr	Mo	Cu	V	Ni
Min.	0.10	0.50	0.15	--	--	1.00	0.90	--	0.20	--
Max.	0.15	1.00	0.50	0.020	0.020	1.50	1.30	0.3	0.30	0.3
Typical	0.13	0.8	0.3	0.01	0.01	1.3	1.1	0.1	0.25	0.1

ALL-WELD MECHANICAL PROPERTIES

PWHT 720°C/3h		Typical
Tensile strength (MPa)		650
0.2% proof strength (MPa)		550
Elongation (%)	4d	24
	5d	21
Impact ISO-V(J)	+20°C	50
Hardness (HV)		230

TYPICAL OPERATING PARAMETERS

Shielding gas: 80% Ar-20%CO_2 at 20-25min. Proprietary gases may be used but argon should not exceed 80%.
The wire is also suitable for use with 100%CO_2.

Current: DC+ve ranges as below (when using 100%CO_2 increase voltage by about 2V):

Diameter (mm)	amp-volt range	typical	stickout
1.2	160-260A, 24-30V	190A, 25V	15-25mm

PACKAGING DATA

Diameter (mm)	Weight (kg)	Packaging	Item number
1.2	15	S300	CM1V-12

FUME DATA (WT % TYPICAL)

Fe	Mn	Cr^3	Cr^6	Ni	F	Cu	OES (mg/m³)
20	8	1	< 1	< 0.5	8	< 1	5