

**Characteristics and Applications:**

HN-521 is a fluoride-basic flux with high basicity and low impurity levels such as P and S. It is suitable for welding on DC and AC using single and tandem wire process.

It also specially suited to narrow gap welding on AC. It provides excellent weld-ability and due to neutral behavior, high mechanical properties of weld metal can be controlled by using the appropriate wire grade.

- Fine grain structural steels for low temperature requirements.
- Offshore applications.
- High tensile fine grain steels.

**Notes on Usage:**

1. The flux must be re-dried at a temperature of 300~350°C for 2~4hr holding time when it is affected by moisture pick-up.
2. Re-circulation of flux should be limited to three cycles. After this, the flux should be mixed with twice its volume of new flux prior to further use.
3. We recommend using heated hoppers for storage of flux in production.

**Typical Chemical Composition of Weld Metal (wt%)**

Wire	Weld metal classification		C	Mn	Si	P	S	Mo	Ni	Cr
	AWS A5.17	EN ISO 14171-A								
HOBART H12K	F7A8-EH12K	S 42 6 FB S3Si	0.08	1.50	0.39	0.014	0.005	-	-	-
HOBART M12K	F7A6-EM12K	S 38 5 FB S2Si	0.06	1.16	0.32	0.015	0.005	-	-	-
Wire	Weld metal classification		C	Mn	Si	P	S	Mo	Ni	Cr
	AWS A5.23	EN ISO 14171-A								
HOBART 12E	F8A6/P6-EA2-A2	S 42 5 FB S2Mo	0.06	0.99	0.19	0.013	0.004	0.47	-	-
HOBART 13E	F9A4-EG-G	S 50 4 FB SZ	0.057	1.26	0.41	0.017	0.004	0.41	-	-
HOBART 32E	F8A10-ENi2-Ni2	S 42 7 FB S2Ni2	0.06	0.90	0.24	0.007	0.002	-	2.23	-
HOBART 33E	F8A15/P15-ENi3-Ni3	S 46 10 FB S2Ni3	0.064	0.85	0.24	0.003	0.003	-	3.29	-
HOBART 40E	F8A8-EG-G	S 46 6 FB SZ	0.07	1.35	0.30	0.012	0.005	0.23	0.80	-
HOBART 5GE	F11A6/P6-EG-G	-	0.06	1.33	0.30	0.011	0.003	0.48	2.43	0.57
HOBART 41E	F9A6/P6-EF3-F3	S 50 5 FB S3Ni1Mo	0.07	1.55	0.22	0.011	0.002	0.48	0.8	--
SubCor H12KN	F8A8/P6-ECG-G	-	0.06	1.5	0.20	0.010	0.004	--	1.70	--

**Typical Mechanical Properties of Weld Metal**

Wire	Yield strength MPa(ksi)	Tensile strength MPa(ksi)	Elongation %	Charpy V-Notch J (ft-lbf)	Temperature °C(°F)	PWHT
HOBART H12K	430(62)	520(75)	32	145(107)	-51(-60)	--
				120(89)	-62(-80)	--
HOBART M12K	414(60)	493(72)	34	190(140)	-51(-60)	--
HOBART 12E	498(72)	573(83)	28	130(96)	-51(-60)	--
HOBART 13E	656(95)	670(97)	25	90(66)	-40(-40)	--
HOBART 32E	484(70)	563(82)	32	63(46)	-73(-100)	--
HOBART 33E	527(76)	611(89)	30	64(47)	-101(-150)	--
HOBART 40E	549(80)	628(91)	28	90(66)	-62(-80)	--
HOBART 5GE	694(101)	806(117)	20	66(49)	-51(-60)	--
HOBART 41E	600(87)	680(99)	26	78(58)	-51(-60)	--
SubCor H12KN	562(82)	643(93)	30	136(100)	-62(-80)	--

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