



Product Data Sheet

Dual Shield Prime 71 LT H4

T 'Tubular cored electrode arc welding'

Prepared by Neil Farrow	Qualified by P-O Oskarsson	Approved by Neil Farrow	Reg no EN009765	Cancelling EN009348	Reg date 2021-12-02	Page 1 (2)
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REASON FOR ISSUE

CE Approval updated.

GENERAL

A seamless, copper free, cored wire designed to weld thick steel components. The diffusible hydrogen level is consistently below 4ml/100g of deposited weld metal and with the seam of the wire being laser welded this ensures no moisture pick up. The wire is not copper coated which means there is no chance of copper flakes contaminating feed liners, torches and contact tips. Dual Shield Prime 71 LT H4 is designed to weld medium strength steels (>420 MPa, >61 ksi yield strength) and provides excellent impact toughness down to -40 degrees C. Dual Shield Prime 71 LT H4 is designed to be used with either CO₂ (C1) or Ar/CO₂ (M21) shielding gas mixtures.

Shielding Gas: M21, C1 (EN ISO 14175) **Alloy Type:** C Mn
Polarity: DC+ **Fill Type:** Rutile
Diff Hydrogen: < 4 ml/100g

CLASSIFICATIONS Weld Metal

EN ISO 17632-B	T494T12 1C1A H5
EN ISO 17632-B	T494T12 1M21A H5
SFA/AWS A5.20	E71T-1C/1M/9C-J/9M-J-H4
SFA/AWS A5.20	E71T-12C-J/12M-J-H4
JIS Z 3313	T49 4 T1-1 C/M A-H5
KS D 7104	YFL-A503R/YFL-C503R
EN ISO 17632-A	T42 4 P C1 1 H5
EN ISO 17632-A	T42 4 P M21 1 H5

APPROVALS

ABS	4Y400SA H5
CE	EN 13479
CWB	E491T1-C1A4-CS2-H4 (E491T-12J-H4)
CWB	E491T1-M21A4-CS2-H4 (E491T-12MJ-H4)
DNV	IV Y40MS H5 (C1)
DNV	IV Y40MS H5 (M21)
LR	4Y40S H5

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.02	0.06
Si	0.30	0.50
Mn	1.00	1.50
P		0.025
S		0.025
Cr		0.2
Ni	0.35	0.5
Mo		0.2
V		0.08
Nb		0.05



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Standard	Shielding Gas	Condition	Rp0.2 [MPa/ksi]		Rm [MPa/ksi]			A4 [%]	
			Min	Typ	Min	Max	Typ	Min	Typ
According to AWS	M21 Shielding gas	As welded	420/61	480/70	500/73	620/90	540/78	20	32
According to AWS	C1 Shielding gas	As welded	420/61	450/65	500/73	620/90	525/76	20	32

Comments:

Standard	Shielding Gas	Condition	Temp [°C/°F]	Charpy V [J/ft-lb]	
				Min	Typ
According to AWS	M21 Shielding gas	As welded	-30/-22 -40/-40	47/35	117/87 78/58
According to AWS	C1 Shielding gas	As welded	-30/-22 -40/-40	47/35	97/72 54/40

Comments:

ECONOMICS & CURRENT DATA

Dimension Ø	Current (A)		W	η	N	H			Feed			U		
	Min	Max				Nom	Min	Max	Nom	Min	Max	Nom	Min	Max
1.2 mm (0.045 in.)	170	310	20	87		2.5 kg/h (5.5 lb/h)	6.2 kg/h (13.7 lb/h)		6.0 m/min (236 in/min)	16.5 m/min (650 in/min)		25	35	
1.6 mm (1/16 in.)	180	420	20	87		1.8 kg/h (4 lb/h)	7.5 kg/h (16.5 lb/h)		3.0 m/min (118 in/min)	13.0 m/min (512 in/min)		24	38	

W = Gas consumption (l/min)

η = Filler metal efficiency (g weld metal x 100 / g wire)(%)

N = Deposition efficiency (g weld metal x 100 / g electrode)(%)

H = Deposition rate (kg weld metal/hour arc time)

Feed = Wire feed speed (m/min)

U = Arc voltage (V)

OTHER DATA

CTOD test results:

Under CO₂ gas at 0 °C Ave. = 0.799mm and at -10 °C = 0.685mm

Under Ar/CO₂ gas at 0 °C Ave. = 0.893mm and at -10 °C = 0.864mm