

*Introducing...*

**WASHINGTON ALLOY'S**

*NEWEST* ADDITION TO OUR  
FLUX-CORED WIRE SELECTION

...the **71T-1M**



**Non-baked Formula**

*Super Clean...*

*Super Smooth...*

*Super Performance*

**ISO 9001:2000**

**Registered Quality Management Systems**

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# WASHINGTON ALLOY 71T-1M

UNS W07601 AND UNS W07609 / AWS A5.20 E71T-1 ABS 2SA, 2YSA E71T-1

Washington Alloy's 71T-1M is a general purpose, all position flux cored wire designed to yield excellent chemical and mechanical properties within a wide range of parameter settings.

Our 71T-1M exceeds all minimum requirements for the specifications shown above, as well as Charpy impact requirements at -18° C, and diffusible hydrogen content far below the H8 classification requirements.

The flux formulation in our 71T-1M is designed to yield x-ray quality welds while using a mixture of Argon/CO<sub>2</sub> - or, if you prefer, 100% CO<sub>2</sub> can be used with only a slight fluctuation in mechanical properties (see chart below).

**Low fume emissions and low spatter** mean less clean up, enhanced deposition rates and the safest possible welding environment (Note: Even though our fume emissions are low, it is strongly recommended that ANSI rated fume extractors or respirators be used to ensure the lowest possible toxic fume inhalation).

**Super Clean** wire, combined with a **Super Smooth** arc ensure the **Super Performance** you will experience with Washington Alloy's new 71T-1M!

## FEATURES:

- \*All position welding
- \*Superior deposition rate
- \*Low-fume emissions
- \*Utmost in operator appeal
- \*Smooth, stable arc
- \*Spatter free welds
- \*Wide operating range

## APPLICATIONS:

Washington Alloy's 71T-1M yields x-ray quality welds at a wide range of parameter settings, making it possible to weld on very thin materials without having to change to a small diameter wire.

Single or multi-pass welds are suitable for heavy structural welding in railcars, shipbuilding, earth moving equipment, pressure vessels, bridge building, steel structural frames, general repair and maintenance of farm equipment, tanks, piping, mill equipment, etc.

## TYPICAL CHEMICAL ANALYSIS OF UNDILUTED WELD METAL DEPOSIT

Element	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V	Fe	H
Maximum Values	Mx	Mx	Mx	Mx	Mx	Mx	Mx	Mx	Mx	Mx	Balance	(VH)
AWS A5.20 E71T-1	.180	1.75	.90	.030	.030	.350	.50	.20	.030	.080		ml/100g
Deposit - Ar/CO <sub>2</sub>	.045	1.46	.620	.020	.010	.010	.020	.030	.020	.010	Balance	4.83
Deposit - **100% CO <sub>2</sub>	.060	1.28	.460	.020	.020	.020	.020	.020	.010	.010	Balance	3.71

## TYPICAL MECHANICAL PROPERTIES

Stress Test Conducted	Minimum Requirements AWS A5.20 E71T-1M	Typical Test Results Ar/CO <sub>2</sub>	Typical Test Results **100% CO <sub>2</sub>
Tensile Strength – psi (Mpa)	58,000 Min	86,130 (594)	85,405 (589)
Yield Strength – psi (Mpa)	70,000 Min	81,200 (560)	78,155 (539)
Elongation % in 2" (51mm)	22% Min	26%	25%
Charpy V-notch @ -18°C	27 ft-lbs (37J)	55 ft-lbs (75J)	52 ft-lbs (70J)

\*\* To achieve X-ray quality welds using 100% CO<sub>2</sub>, The Gas must be "welding Grade", with a dew point of -50°, and is strongly recommended to manifold 2 – 50# cylinders together, or use bulk CO<sub>2</sub>, and to use a CO<sub>2</sub> heater to eliminate moisture.

## WELDING PARAMETERS

Shielding Gas: Argon/CO<sub>2</sub> or 100% CO<sub>2</sub>      Flow rate: 35 – 50 CFH  
Wire Stick-out: ½" - 1"      DC+ (Reverse polarity = Electrode positive)

Wire dia. Inch/mm	Position	Wire feed speed	Amps	Volts	Optimum Amps	Optimum Volts
.045 (1.2mm)	Flat/horiz.	375	*100(120)-320	22-32	250	30
	Vertical up	260	*100(120)-250	22-28	200	26
	Overhead	260	*100(120)-260	22-29	200	28
1/16 (1.6mm)	Flat/horiz.	300	150-400	24-35	350	32
	Vertical Up	160	160-280	24-28	220	26
	Overhead	160	160-300	24-28	220	26

\* Applications requiring .045 Dia. wire should be welded with a minimum of 120 Amps. Settings below 120 Amps should only be used on thinner materials that would normally require .035 Dia. wire. Attempting to weld heavier materials below 120 Amps may result in inadequate weld penetration and can effect weld integrity.

## WASHINGTON ALLOY CO.

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