

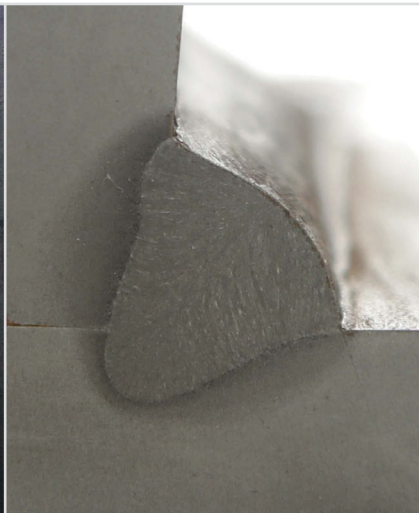
High Deposition Rates and Excellent Weld Quality for Carbon Steel MIG Welding

Praxair's *Stargon™ VS* welding blend helps improve throughput and productivity while reducing overall costs.

Praxair's *Stargon VS* is a proprietary blend of argon, helium, and carbon dioxide, designed to meet the demands of your MIG/MAG (GMAW) process with enhanced performance and lower operational costs. *Stargon VS* gas blend provides high arc energy which stabilizes the arc and allows maximum wire transfer rates and travel speeds, focused penetration and excellent bead appearance – good wetting, flat crown and minimal spatter.

Stargon VS is optimal for:

- Metal cored and solid core wires
- All position welding
- Jobs requiring changes in metal transfer modes and electrode types
- High arc stability at both low and high amperages



Left

Welded with *Stargon VS* welding blend and .045" 70S-6 welding wire – Deposition rate of 17lbs/hr

Right

Stargon VS welding blend provides excellent penetration at maximum deposition rates

FEATURES	BENEFITS
One gas, multiple applications	<ul style="list-style-type: none"> ■ Can be paired with a range of wire sizes and types for carbon steel ■ Can be used with multiple forms of metal transfer
Wetting characteristics and low oxidation for enhanced performance	<ul style="list-style-type: none"> ■ Helium allows for exceptional heat transfer ■ Excellent arc stability at both low and high amperages
Reliable arc stability over range of surface conditions	<ul style="list-style-type: none"> ■ Minimal porosity on galvanized sheet material ■ Less spatter on surfaces with light oil/scale

Formulated for Higher Efficiency and Productivity

Stargon VS as compared to common shielding gases C-25 and 90/10 under the same conditions: 70S-6 .035 wire, 3/16 in. fillet weld. The results speak for themselves.

C-25	90/10	<i>Stargon VS</i>
Wire feed speed: 450	Wire feed speed: 600	Wire feed speed: 750
Voltage: 19.5	Voltage: 22	Voltage: 26.5
Deposition: 7.4 lbs/hr	Deposition: 9.8 lbs/hr	Deposition: 12.3 lbs/hr
Weld is somewhat erratic arc, large amount of spatter.	Decreased spatter and increased travel speed compared to C-25.	Weld more controlled and consistent compared to C-25 and 90/10 and completed in the least amount of time of the three.



Shielding gases have natural limits on deposition. C-25 gas lacks enough energy in the arc to stabilize the weld at high deposition rates, leading to spatter and undercutting. Although 90/10 is able to match *Stargon VS*'s 12.3 lbs/hr deposition rate, the quality is diminished by spatter and crowning. If your project calls for a *flat, clean* weld at maximum wire feed and deposition rate, *Stargon VS* is the optimal choice.

Increase Throughput, Activity, and Your Bottom Line

When welding with a 15% duty cycle, Praxair's *Stargon VS* gas produced 15 parts per hour, a 20% increase in productivity over 90/10 and a 40% increase when compared to C-25.

Welding Cost Stack	Units	75%Ar / 25%CO ₂	90%AR / 10%CO ₂	<i>Stargon VS</i>
Max Deposition Rate	lbs/hr	7.30	9.80	12.30
Deposition Efficiency	%	87%	94%	95%
Wire Purchased	lbs	5,000	4,650	4,604
Gas Flow	CFH	35	35	35
Arc on time % (Duty Cycle)	%	15%	15%	15%
Gas Price	\$/ccf	\$ 4.00	\$ 5.00	\$ 6.50
Wire Price	\$/lb	\$ 1.50	\$ 1.50	\$ 1.50
Labor/Overhead Rate	\$/hr	\$ 35.00	\$ 35.00	\$ 35.00
		75%AR / 25%CO ₂	90%AR / 10%CO ₂	<i>Stargon VS</i>
Cost of Gas/Year		\$ 958.90	\$ 830.36	\$ 851.46
Cost of Wire/Year		\$ 7,500.00	\$ 6,975.00	\$ 6,905.25
Cost of Labor/Year		\$ 159,817.35	\$ 110,714.29	\$ 87,329.27
Cost of Welding/Year	\$/Yr	\$ 168,276.26	\$ 118,519.64	\$ 95,085.98
Total Savings/Year	\$/Yr	\$ 73,190.28	\$ 23,433.66	

Despite a slight increase in gas cost, using *Stargon VS* can save \$23,433.66 in annual operation cost for one weld station when compared to 90/10 and \$73,190.28 when compared to C-25, if used properly.

Want more proof? Let Praxair show you.



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