PRAXAIR

Making our planet more productive

STARGON™ SS WELDING BLEND

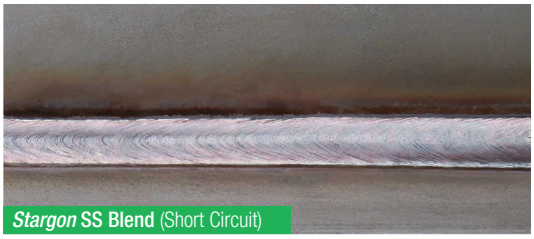
Ar | CO_2 | N

Avoid Rising Helium Costs, While Improving Quality in Stainless Steel Welding

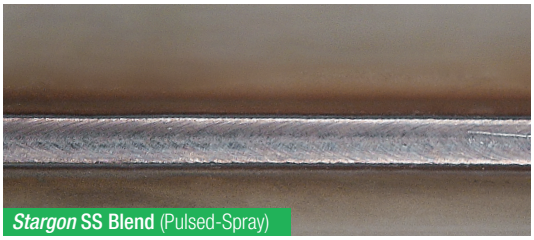
Stargon SS blend is an argon-based blend for stainless steel.

Replace Expensive Helium Blends

The world's supply of helium is finite and with a growing demand, prices continue to climb. When welding stainless steel, helium's thermal conductive properties help to produce fine and flat welds. *Stargon* SS is able to duplicate the arc characteristics of helium welding blends with its unique composition, while offering significant cost savings.



***Stargon* SS Blend** (Short Circuit)



***Stargon* SS Blend** (Pulsed-Spray)

Versatile Blend for All GMAW Processes

Praxair's *Stargon* SS gas blend is a carefully controlled blend of argon, carbon dioxide and nitrogen. It is designed for joining a variety of thick or thin stainless steels in all positions, and performs well in short circuit, spray and pulsed spray welding modes.

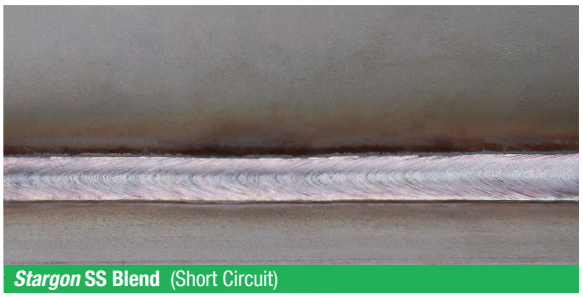
FEATURES	BENEFITS *(When compared to helium-based blends)*
Nitrogen-enhanced shielding gas blend	▪ Excellent arc stability ▪ Good weld penetration and surface appearance ▪ Chemistry control for strong corrosion resistance ▪ Reduced base metal distortion
Low oxidizing potential	▪ Controlled CO2 level for reduced weld carbon content, resulting in improved corrosion resistance ▪ Improved color match
Good performance over a wide range of welding parameters	▪ Good short-circuit welding performance ▪ Optimized travel speed performance in pulsed spray ▪ Good bead shape with minimal spatter
Excellent mechanical properties	▪ Equavalent or greater tensile strengths ▪ Equavalent or greater corrosion resistance

Exceptional Performance on Thin Materials

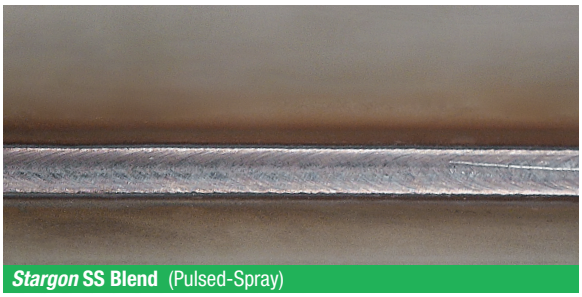
Praxair's argon-based *Stargon* SS gas blend doesn't require higher arc voltages like helium-based blends. High arc voltages increase heat input into the weld, which affects product quality when welding thin materials. *Stargon* SS blend allows for lower welding voltages, compared to helium blends. This means less heat input during welding, resulting in less metal distortion. Lower heat input using *Stargon* SS blend also decreases sensitization of the chrome in the weld, thus improving corrosion resistance in the weldment. This makes *Stargon* SS blend an ideal blend for sheet metal and thin-gauge applications.

IMR TEST LABS *(Third Party Testing)* STAINLESS STEEL WELDING GAS BLEND	TENSILE STRENGTH ASME IX:2017 TENSILE STRENGTH (KSI)	CORROSION RESISTANCE ASTM G 48 METHOD A MASS LOSS - 72 hrs (GRAMS)
Stargon SS (Ar / CO2 /N2) - BEST IN CLASS	**92.75**	**3494**
98% Ar/ 2% O2	91.00	3869
A1025 (7.5%Ar/90%He/2.5%CO2)	88.50	3561
HeliStar SS (66%Ar/33%He/1%CO2)	88.50	3987
98% Ar/ 2% CO2	77.50	3692

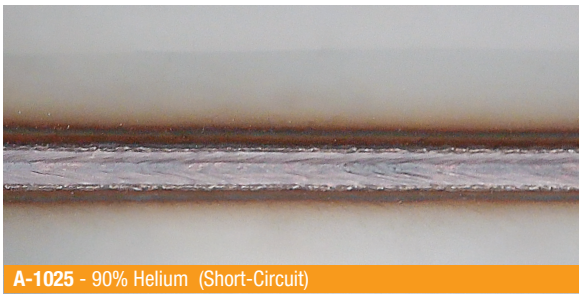
Weld Comparisons



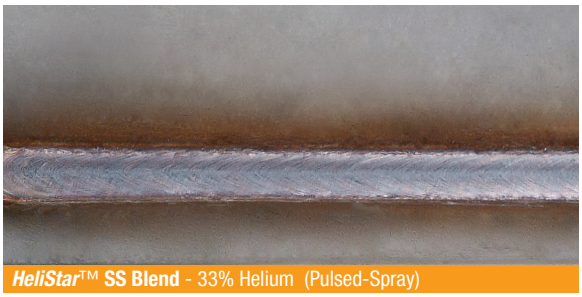
***Stargon* SS Blend** (Short Circuit)



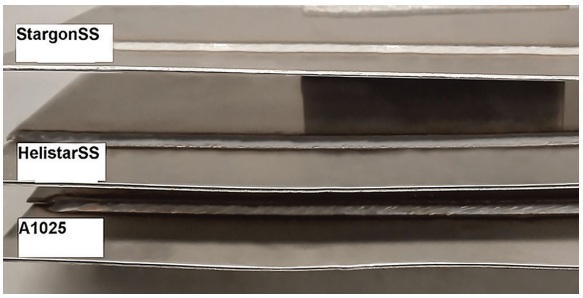
***Stargon* SS Blend** (Pulsed-Spray)



A-1025 - 90% Helium (Short-Circuit)



***HeliStar*™ SS Blend** - 33% Helium (Pulsed-Spray)



Welding Gas Distortion Comparison

These photos show typical results when welding 304 stainless steel, using ER308L welding wire. The top row shows results when using Praxair's *Stargon* SS welding blend and the second row, commonly used helium-based welding blends. The left photo shows results typical on thin materials.

Protect productivity and reduce costs in your stainless steel welding processes.

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