

UN No. 1956

Hazard No. 2RE

Classification AS 4882-2003: SG-AHeO-35/1

Supa Stainless 64

Package Sizes Available



General Specifications

Specifications	G Cyl.	6 Pack	12 Pack
Cylinder/Pack - m ³ (101.325kPa @15°C)	7.1	61.2	122.4
Water capacity per cylinder - L	50	300	600
Cylinder/Pack Pressure	17,000	15,000	
Cylinder Colour	Green Grey Body/Brown Band/Pewter Shoulder		
Outlet Connection	Type 10		
Package Dimensions - mm Height x Width x Depth	1,510 x 230	1,900 x 780 x 510	1,900 x 780 x 1,020

Cylinder dimensions are approximate – variations may occur due to manufacturing tolerances.
Height includes the valve. Container sizes may vary from state to state.

Typical Analysis

Product Name	Ar	He in Ar	O ₂	Tolerance on minor component mix.
Industrial Grade Supa Stainless 64	64%	35%	1%	+/- 10%

Description

Supa Stainless shielding gas mixtures are designed for the highest quality Gas Metal Arc Welding (GMAW) of Stainless Steel, Nickel and Duplex Stainless steel alloys where controlled penetration, low spatter rates, weld face appearance and high weld-metal integrity are of utmost importance. Supa Stainless mixture contains Helium that allows better heat transfer into the weld than with argon alone. With the addition of Carbon Dioxide it reduces the spatter and gives a superior weld finish.

Common Uses

- Shielding gas for high deposition of carbon steel/stainless steel
- Increased heat input because of the Helium in the mixture allows higher higher travel speeds whilst still maintaining good control of bead shape. Ideal for robotic applications
- Heavy single pass fillets in structural components
- Capable of welding over rust surfaces and oil
- Welding tank seams at higher welding speeds
- Fabricating stainless steel tanks and components for food, chemical and pharmaceutical

Technical Information and Uses

GMA Welding (MIG) with these gases is possible in all transfer modes including; short circuit, spray and pulsed modes.

The low Carbon Dioxide (CO₂) mix (< 2.8%) does not oxidize the stainless and nickel steels as much, compared to oxygen (O₂) used in traditional stainless steel shielding gases. This means that the resultant weld surface appearance looks

visibly brighter and cleaner, normally with a blue to gold tinge of colour around the heat affected zone. The lower CO₂ levels in these gases reduce the oxidising potential which helps to stabilise the arc, and also minimise the effect on corrosion performance.

Helium is added to promote more weld energy. Because austenitic steels have a high thermal conductivity, the addition of helium helps to avoid lack of fusion defects and helps put more heat into the weld joint/material for superior side wall fusion and penetration. The high heat input from the helium increases the wire feed rate potential, which can reduce weld labour costs considerably (between 25-35%).

When MIG welding Chromium-Nickel and Nickel alloys substantial weld benefits are realised such as, increased arc stability through improved electron transfer without concern for oxidation contamination of the weld, also these higher helium mixtures enable higher wire-feed speeds which provide higher current carrying capability, improving weld fusion for better mechanical and test (X-Ray) results. The higher wire-feed speed also allows higher automated and robotic welding speeds which results in higher weld deposition rates.

Main Hazards

- Compressed high pressure gas in cylinders.
- Asphyxiant in high concentrations.

Storage and Handling

- Ensure adequate ventilation for all cylinders and packs.
- Secure single cylinders in upright position and protect valves and manifolds from accidental damage.

- Keep cylinders and packs in a cool area away from all sources of heat.
- Open cylinder valve slowly.
- Close all valves when not in use.
- Ensure all regulators and other devices attached to the cylinder outlets are free from oil and grease, and able to withstand contents pressures. Check for leaks regularly.
- Do not store cylinders in an area where any leaking gas could accumulate.
- If valve is damaged, do not attempt to operate.
- If the valve does not operate by hand, return the cylinder to the supplier. (Attach a "faulty" tag).
N.B. Only regulators, manifolds and ancillary equipment, rated for the appropriate pressure and compatible with the relevant gas, shall be connected to or downstream of these cylinders.

In Case of Leaks

If cylinder or pack is suspected of leaking, evacuate personnel from the direction in which the gas is likely to flow. Stop leak, if possible.

- Major leaks should only be approached with breathing apparatus.
- If possible and if safe to do so, remove leaking cylinder or pack to a safe area outdoors and allow contents to empty into the atmosphere.
- Return empty cylinders and packs to supplier with a note to confirm leak has occurred.

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