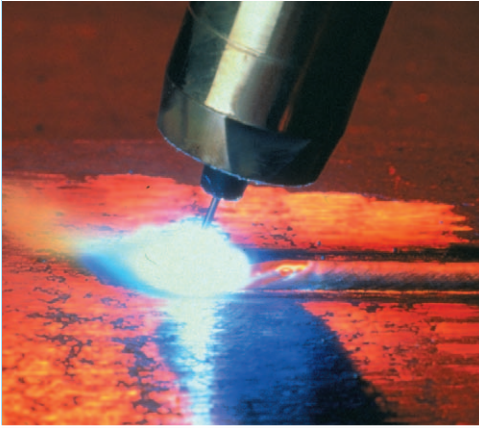


BLUESHIELDTM

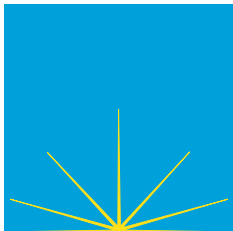
Advanced Shielding Gases
When it matters, BLUESHIELD delivers.





When precision and performance matter.

BLUESHIELD™ delivers the highest quality welding mixtures for increased productivity.



BLUESHIELD™

When precision matters

BLUESHIELD delivers superior mix accuracy and consistency.

- Precise, proprietary mixing.
- Traceable batch analysis.
- High-quality homogenous mixes.
- Meets and exceeds AWS A 5.32 specifications.*

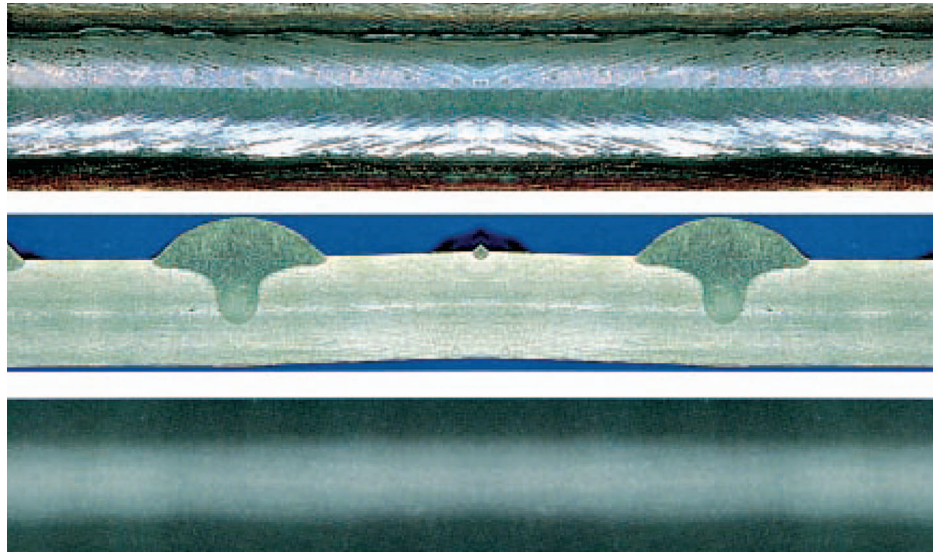
When performance matters

BLUESHIELD delivers increased productivity and lower overall welding cost.

- Excellent control over bead shape, penetration, wetting and travel speed.
- Reduces smoke and spatter to improve operator's environment.
- Provides a good surface finish to minimize clean-up costs.
- Permits a broad range of welding parameters.
- Consistent weld metal chemistry and mechanical properties.
- Minimizes expensive rejects and re-works.

* Applies to all mixes with minor component greater than or equal to 5%.

BLUESHIELD provides exceptional weld bead appearance, penetration, wetting and x-ray quality



BLUESHIELD reduces smoke and spatter



When flexibility matters.

BLUESHIELD™ delivers a specific shielding gas for every welding process and application.



Gas Metal Arc Welding (GMAW)

Carbon Steel

Air Liquide offers four outstanding gas mixes for carbon steel that will optimize your welding procedure.

- **BLUESHIELD 5** provides fast travel speeds in spray transfer mode.
- **BLUESHIELD 6** enables fast travel speeds and gives the operator the versatility of welding in spray transfer mode as well as short circuit transfer mode. In addition to GMAW, BLUESHIELD 6 is ideal for Metal Cored Arc Welding (MCAW).
- **BLUESHIELD 8** consists of 75% argon, 25% carbon dioxide and has become an industry standard for most mild steel welding applications.
- **BLUESHIELD 23** improves arc stability, reduces fumes and spatter, and improves bead appearance in any mild steel GMAW application. BLUESHIELD 23 can be used in all modes of transfer on any material thickness.

Stainless Steel

Two mixes have been developed to improve welding performance, bead appearance and color match for gas metal arc welding of stainless steels.

- **BLUESHIELD 9** gives you the benefits of a high helium, tri-mix GMAW shielding gas. It is commonly used for all stainless steel short circuit transfer applications.
- **BLUESHIELD 20** allows for spray transfer and increased travel speeds.

Non-Ferrous

BLUESHIELD delivers two optimized shielding gases for all non-ferrous applications.

- **BLUESHIELD A** provides exceptional purity and quality of argon shielding gas.
- **BLUESHIELD 1** offers high heat input in the welding process for thick section material where penetration is a primary concern.

Gas Tungsten Arc Welding (GTAW)

BLUESHIELD delivers three high-quality gases to meet the exceptional requirements of GTAW.

- **BLUESHIELD A** provides dependable x-ray quality welds and is commonly used in the GTAW welding process.
- **BLUESHIELD 1** can be used for additional heat input with good color match and arc stability.
- **BLUESHIELD 12** provides high heat input for welding 300 Series Stainless Steels. It is the preferred shielding gas for automated applications.

Flux Cored Arc Welding (FCAW)

BLUESHIELD offers two premium shielding gases for FCAW.

- **BLUESHIELD 8** is the traditional shielding gas for welding mild steel and stainless steel FCAW.
- **BLUESHIELD 211** significantly reduces fume emissions and provides a smoother metal transfer. It practically eliminates spatter and improves bead appearance and quality.

	GMAW	GTAW	FCAW
Mild Steel	BLUESHIELD 5 BLUESHIELD 6 BLUESHIELD 8 BLUESHIELD 23 BLUESHIELD 211	BLUESHIELD A BLUESHIELD 1	BLUESHIELD 8 BLUESHIELD 211
Stainless Steel	BLUESHIELD 9 BLUESHIELD 20	BLUESHIELD A BLUESHIELD 1 BLUESHIELD 12*	BLUESHIELD 8 BLUESHIELD 211
Non-Ferrous	BLUESHIELD A BLUESHIELD 1	BLUESHIELD A BLUESHIELD 1	NA

* 300 series only.

When reputation matters.

Air Liquide is the global leader in welding technology, and it has been for over 100 years.



Advanced Shielding Gases

Name	Composition	Main Application
BLUESHIELD A	Argon	GTAW Steel, stainless steel, non-ferrous GMAW Non-ferrous Short circuit, spray, pulse
BLUESHIELD 1	Argon, Helium	GTAW Steel, stainless steel, non-ferrous GMAW Non-ferrous Short circuit, spray, pulse
BLUESHIELD 5	Argon, Oxygen	GMAW & MCAW Steel Spray, pulse
BLUESHIELD 6	Argon, Carbon Dioxide	GMAW & MCAW Steel Short circuit, spray, pulse
BLUESHIELD 8	Argon, Carbon Dioxide	FCAW & MCAW Steel, stainless steel GMAW Steel, short circuit
BLUESHIELD 9	Argon, Carbon Dioxide, Helium	GMAW Stainless steel Short circuit
BLUESHIELD 12	Argon, Hydrogen	GTAW Stainless steel*
BLUESHIELD 20	Argon, Carbon Dioxide, Helium	GMAW Stainless steel Short circuit, spray, pulse
BLUESHIELD 23	Argon, Carbon Dioxide, Oxygen	GMAW Steel Short circuit, spray, pulse
BLUESHIELD 211	Argon, Carbon Dioxide, Helium	FCAW Steel, stainless steel GMAW Steel, short circuit

* 300 series only.

Air Liquide offers services that can optimize your process and deliver bottom-line savings.

A global team of industry-trained experts with in-depth knowledge of your applications are ready to design and implement solutions to optimize your production process, improve productivity and increase profitability.

Our highly trained Welding Application Specialists are Certified Welding Inspectors (CWI) with many years of experience in welding processes, procedures and analysis. From shielding gas and metallurgical requirements to procedure recommendations and personnel training, our specialists can help optimize your welding processes.

Today, we continue to take safety and precision to new, groundbreaking levels through innovative research and technologies. Air Liquide has more than 200 welding and cutting patents and 250 specialists around the world to ensure the best and most innovative solutions for today's technically advanced requirements.

When safety and packaging matter.

BLUESHIELD™ delivers the safest, most advanced cylinder packaging.



Designed for easy maneuvering

Chrome Residual Pressure Valve

Traceable batch analysis sticker

Precise mixture



Secured shrink sleeve over valve provides tamper-evident seal

BLUESHIELD cylinders are equipped with the SCANDINA™ Cap and a Residual Pressure Valve (RPV).

SCANDINA Cap

- Fixed shock-absorbing cap provides added safety during transport and use, and eliminates lost screw-on type caps.
- Ergonomic design makes it easy to maneuver the cylinder.
- Open design minimizes insect nesting.

Chrome Residual Pressure Valve (RPV)/Check Valve

- Ensures gas quality.
- Restricts back flow into cylinder.
- Designed to prevent cylinder contamination.
- Shrink-wrapped to provide tamper-evident protection.

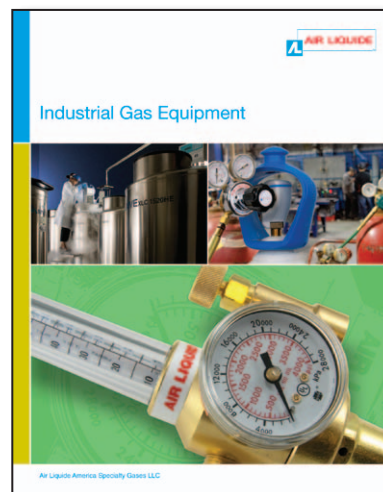
Unique 16-packs offer the most product with the same high quality standards



Industrial Gas Handling Equipment

Air Liquide offers a comprehensive line of industrial grade equipment for use with gases commonly used in welding, cutting and other industrial applications. This equipment is ideally suited for use with Air Liquide brands of industrial gases such as BLUESHIELD™, ALIGAL™, ARCAL™, FLAMAL™ and LASAL™.

Air Liquide brand industrial grade equipment delivers outstanding cost-effective value by delivering many years of reliable, trouble-free performance. Most equipment items are in stock and available for next day shipping. Be sure to ask your Air Liquide representative for a copy of our 24-page catalog that includes regulators, manifolds and accessories such as hoses, valves, fittings and cylinder carts. Or download a copy at www.ALspecialtygases.com.



Founded in 1902, Air Liquide is the world leader in gases for industry, health and the environment, providing innovative solutions for the manufacture of everyday products and for the protection of life.

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