



Gas Selector Guide

Helping you choose the right gas for your welding needs

Energas.
Everything Gas.

ENERGAS
an Air Liquide company

PROCESS EN ISO 4063	FERRITIC STAINLESS STEEL														EN ISO 14175	Composition							Energas ● Available in ARCAL equivalent with Olixib and Exelop ● Available in ARCAL equivalent with Olixib only Alternative shown.	Air Liquide UK ● Available in ARCAL equivalent in Exelop. Alternative shown			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		14+	% Ar	% He	% CO ₂	% O ₂	% H ₂	% N ₂					
135 SOLID WIRE	ARCAL CHROME														M12-ARC-2	98		2							Migweld 2	Argon CO ₂ Welding Mix 3 (M12-ARC-2.5)	
	ARCAL M12He18														M12-ArHeC-18/1	81	18	1								Request technical expertise	
141	ARCAL PRIME														I1-Ar	100										Pure Argon	Argon 4.8
	ARCAL 31														I3-ArHe-5	95	5									Range of Argon and Helium mixtures available *	Request technical expertise
ROOT SHIELDING (backing gas)	ARCAL PRIME														I1-Ar	100									Pure Argon	Argon 4.8	

PROCESS EN ISO 4063	DUPLIX STAINLESS STEEL														EN ISO 14175	Composition							Energas ● Available in ARCAL equivalent with Olixib and Exelop ● Available in ARCAL equivalent with Olixib only Alternative shown.	Air Liquide UK ● Available in ARCAL equivalent in Exelop. Alternative shown					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		14+	% Ar	% He	% CO ₂	% O ₂	% H ₂	% N ₂							
135 SOLID WIRE	ARCAL CHROME														M12-ARC-2	98		2										Migweld 2	Argon CO ₂ Welding Mix 3 (M12-ARC-2.5)
	ARCAL M12He5N														Z-ArHeCN-5/18/17	91.5	5	1.8							1.7		Request technical expertise		
141	ARCAL FORCE														M21-ARC-18	82		18									Migweld 20 (M21-ARC-20)	Argon CO ₂ Welding Mix 210 (M21-ARC-20)	
	ARCAL PRIME														I1-Ar	100											Pure Argon	Argon 4.8	
TIG	ARCAL 31														I3-ArHe-5	95	5									Range of Argon and Helium mixtures available *	Request technical expertise		
	ARCAL N2-2														N2-ArN-2	98									2		2.5% N ₂ in Argon (Nz-ArN-2.5)		
ROOT SHIELDING (backing gas)	ARCAL PRIME														I1-Ar	100											Pure Argon	Argon 4.8	

PROCESS EN ISO 4063	ALUMINIUM														EN ISO 14175	Composition							Energas ● Available in ARCAL equivalent with Olixib and Exelop ● Available in ARCAL equivalent with Olixib only Alternative shown.	Air Liquide UK ● Available in ARCAL equivalent in Exelop. Alternative shown					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		14+	% Ar	% He	% CO ₂	% O ₂	% H ₂	% N ₂							
131	ARCAL PRIME														I1-Ar	100												Pure Argon	Argon 4.8
	ARCAL 31														I3-ArHe-5	95	5										Range of Argon and Helium mixtures available *	Request technical expertise	
141	ARCAL He20														I3-ArHe-20	80	20											Range of Argon and Helium mixtures available *	Request technical expertise
	ARCAL pN														Z-ArN-0.06	99.94									0.06			Request technical expertise	
TIG	ARCAL PRIME														I1-Ar	100												Pure Argon	Argon 4.8
	ARCAL 31														I3-ArHe-5	95	5										Range of Argon and Helium mixtures available *	Request technical expertise	
ROOT SHIELDING (backing gas)	ARCAL He20														I3-ArHe-20	80	20											Range of Argon and Helium mixtures available *	Request technical expertise

PROCESS EN ISO 4063	GALVANISED STEEL														EN ISO 14175	Composition							Energas ● Available in ARCAL equivalent with Olixib and Exelop ● Available in ARCAL equivalent with Olixib only Alternative shown.	Air Liquide UK ● Available in ARCAL equivalent in Exelop. Alternative shown								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		14+	% Ar	% He	% CO ₂	% O ₂	% H ₂	% N ₂										
135	ARCAL SPEED														M20-ARC-8	92		8											Migweld 8	Argon CO ₂ Welding Mix 8		
	ARCAL M14														M14-ARCO-3/1	96		3	1									Migweld 5 (M14-ARCO-5/2)	Argon CO ₂ Welding Mix 5 (M14-ARCO-5/2)			
136	ARCAL SPEED														M20-ARC-8	92		8												Migweld 8	Argon CO ₂ Welding Mix 8	
	ARCAL M14														M14-ARCO-3/1	96		3	1										Migweld 5 (M14-ARCO-5/2)	Argon CO ₂ Welding Mix 5 (M14-ARCO-5/2)		
973	ARCAL CHROME														M12-ARC-2	98		2													Migweld 2	Argon CO ₂ Welding Mix 3 (M12-ARC-2.5)
	ARCAL 10CU														M11-ArHC-1/0.5	98.5		0.5													Request technical expertise	

DISCLAIMER

The information has been carefully compiled to the best of our knowledge and is subject to change without prior consent or notice. The advice in this tool is only suggestions that may lead to improvement of the welding quality. No guarantees can be given about this.



Energas. Everything Gas.

Scan the QR code for more information.

* request technical expertise

ARCAL™ Gas Selector

ARCAL™ REFERENCE LINE

- ARCAL™ Prime
- ARCAL™ Chrome
- ARCAL™ Speed
- ARCAL™ Force

ARCAL™ TECHNICAL LINE

- Oxygen Line
- Helium Line
- Hydrogen Line
- Alloy Line

Oxidising gas with CO₂ and/or O₂ for MAG welding
 Gas with Helium for more productivity
 Gas mixture with Hydrogen content
 Gases for specific alloys

Weld penetration	Travel Speed	Sourness	Wetting	Low oxidation level and silicates	Low spatter emission	Low fume emission	Arc Striking	Tolerances to electric parameter	Fit-up tolerance	Tolerance to surface cleanliness	Versatility	Spray window	Pulsed mode quality
1	2	3	4	5	6	7	8	9	10	11	12	13	14

PROCESS EN ISO 4063	CARBON STEEL														EN ISO 14175	Local branded products where ARCAL is not available (default). Note: mixtures align with EN ISO 14175:2008 classification but some mixtures are not exactly the same (differences noted)	Air Liquide UK ● Available in ARCAL equivalent in Exeltop ● Alternative shown.
	Material thickness in mm																
MAG SOLID WIRE	ARCAL SPEED														M20-ArC-8	● Migweld 8 ● Argon CO ₂ Welding Mix 8	
	ARCAL M14														M21-ArC-18	● Migweld 20 (M21-ArC-20) ● Argon CO ₂ Welding Mix 210 (M21-ArC-20)	
	ARCAL M24														M14-ArCO-3/1	Argon CO ₂ Welding Mix 5 (M14-ArCO-5/2)	
	ARCAL M26														M24-ArCO-12/2	● Migweld 5 (M24-ArCO-13.5/1.5) ● Argon CO ₂ Welding Mix SM (M24-ArCO-13.5/1.5)	
METAL CORED	ARCAL SPEED														M26-ArCO-20/2	● Migweld 22 ● Argon CO ₂ Welding Mix 8	
	ARCAL M14														M20-ArC-8	● Argon CO ₂ Welding Mix 8	
	ARCAL M24														M21-ArC-18	● Argon CO ₂ Welding Mix 20 (M21-ArC-20) ● Argon CO ₂ Welding Mix 210 (M21-ArC-20)	
	ARCAL M26														M14-ArCO-3/1	● Migweld 5 (M14-ArCO-5/2) ● Argon CO ₂ Welding Mix 5 (M14-ArCO-5/2)	
FLUX CORED	ARCAL FORCE														M24-ArCO-12/2	● Migweld 22 ● Argon CO ₂ Welding Mix SM (M24-ArCO-13.5/1.5)	
	ARCAL PRIME														M26-ArCO-20/2	● Migweld 22 ● Argon CO ₂ Welding Mix 20	
TIG	ARCAL FORCE														M21-ArC-18	● Migweld 20 (M21-ArC-20) ● Argon CO ₂ Welding Mix 210 (M21-ArC-20)	
	ARCAL PRIME														I1-Ar	● Pure Argon ● Argon 4.8	

PROCESS EN ISO 4063	AUSTENITIC STAINLESS STEEL														EN ISO 14175	Energas ● Available in ARCAL equivalent with Qlibi and Exeltop. ● Available in ARCAL equivalent with Qlibi only. ● Alternative shown.	Air Liquide UK ● Available in ARCAL equivalent in Exeltop. ● Alternative shown.
	Material thickness in mm																
MAG SOLID WIRE	ARCAL CHROME														M12-ArC-2	● Migweld 2 ● Argon CO ₂ Welding Mix 3 (M12-ArC-2.5)	
	ARCAL M13														M13-ArO-2	Exellar 2	
	ARCAL M12He18														M12-ArHeC-18/1	Request technical expertise	
	ARCAL CHROME														M12-ArC-2	● Argon CO ₂ Welding Mix 3 (M12-ArC-2.5)	
METAL CORED	ARCAL M13														M13-ArO-2	Exellar 2	
	ARCAL M12He18														M12-ArHeC-18/1	Request technical expertise	
	ARCAL FORCE														M21-ArC-18	● Migweld 20 (M21-ArC-20) ● Argon CO ₂ Welding Mix 210 (M21-ArC-20)	
	ARCAL PRIME														I1-Ar	● Pure Argon ● Argon 4.8	
TIG	ARCAL 31														I3-ArHe-5	Request technical expertise Range of Argon and Helium mixtures available*	
	ARCAL R1-2														R1-ArH-2.4	HyLar 2 (R1-ArH-2)	
	ARCAL PRIME														R1-ArH-5	HyLar 5 ● Argon 4.8	
	ARCAL N5-5														N5-NH-5	5% Hydrogen in Nitrogen Forming Gas	

ROOT SHIELDING
(backing gas)

ARCAL™ New Generation

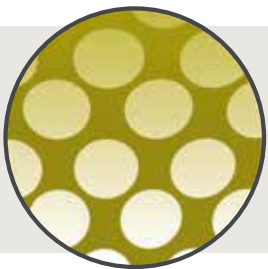
ARCAL™ Reference Line



Exeltop

Qlixbi Classic

Qlixbi R



ARCAL™ Prime

Gas Specification
EN ISO 14175 Designation
Cylinder Connector or TOP
Cylinder Size and Pressure
Quick Fit Connector

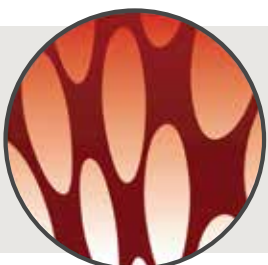
Argon ≥ 99,998%
I1 - Ar
Exeltop, QLIXBI Classic and QLIXBI R
L50/L33 300B
QFC Argon



ARCAL™ Chrome

Gas Specification
EN ISO 14175 Designation
Cylinder Connector or TOP
Cylinder Size and Pressure
Quick Fit Connector

98% Argon, 2% CO₂
M12-ArC-2
QLIXBI Classic and QLIXBI R
L50/L33 300B
QFC Argon



ARCAL™ Speed

Gas Specification
EN ISO 14175 Designation
Cylinder Connector or TOP
Cylinder Size and Pressure
Quick Fit Connector

92% Argon, 8% CO₂
M20-ArC-8
Exeltop, QLIXBI Classic and QLIXBI R
L50/L33 300B
QFC Argon



ARCAL™ Force

Gas Specification
EN ISO 14175 Designation
Cylinder Connector or TOP
Cylinder Size and Pressure
Quick Fit Connector

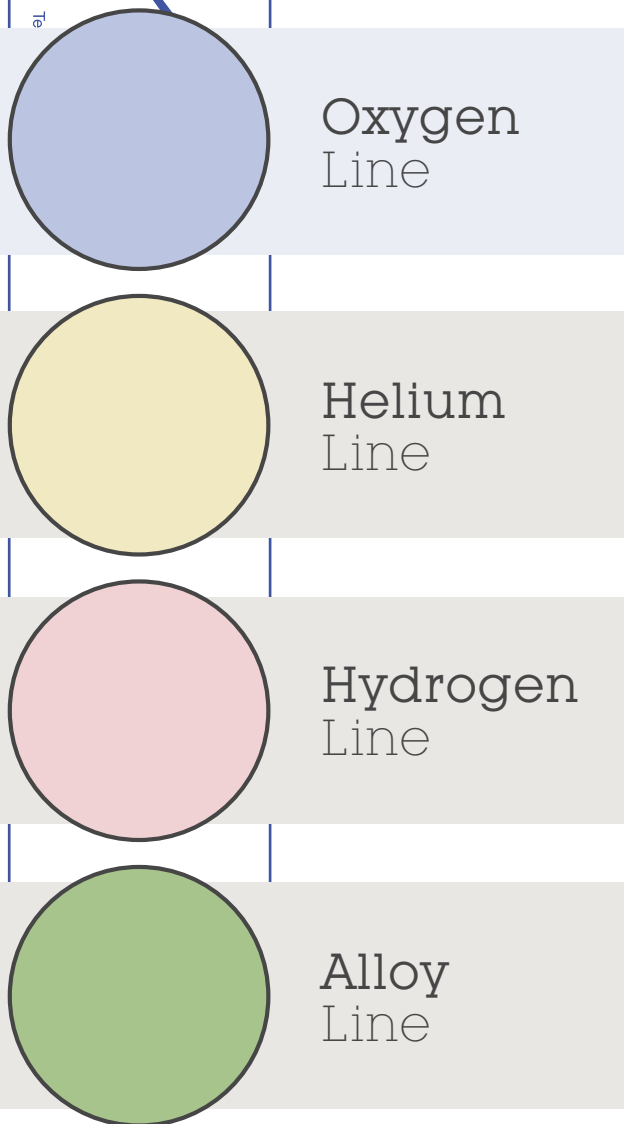
82% Argon, 18% CO₂
M21-ArC-18
Exeltop, QLIXBI Classic and QLIXBI R
L50/L33 300B
QFC Argon

ARCAL™ Techline



**Qlixbi
Classic**

**Qlixbi
R**



Oxygen
Line

Helium
Line

Hydrogen
Line

Alloy
Line

ARCAL™ M14

Gas Specification 96% Argon, 3% CO₂, 1% Oxygen
 EN ISO 14175 Designation M14-ArCO-3/1
 Cylinder Connector or TOP **QLIXBI Classic** and **QLIXBI R**
 Cylinder Size and Pressure L50/L33 300B
 Quick Fit Connector QFC Argon

ARCAL™ M24

Gas Specification 86% Argon, 12% CO₂, 2% Oxygen
 EN ISO 14175 Designation M24-ArCO-12/2
 Cylinder Connector or TOP **QLIXBI Classic** and **QLIXBI R**
 Cylinder Size and Pressure L50/L33 300B
 Quick Fit Connector QFC Argon

ARCAL™ M26

Gas Specification 78% Argon, 20% CO₂, 2% Oxygen
 EN ISO 14175 Designation M26-ArCO-20/2
 Cylinder Connector or TOP **QLIXBI Classic** and **QLIXBI R**
 Cylinder Size and Pressure L50/L33 300B
 Quick Fit Connector QFC Argon

(various pressures available dependant on mixture - 200, 230 and 300 bar) with residual pressure valves fitted.

ENERGAS

Your local gas and equipment experts

- Comprehensive range of welding & engineering supplies from world leading manufacturers
- Welding machines & plasma cutting equipment for sale or hire
- Welding consumables including MIG wire, TIG wire, electrodes & Sub-arc wire
- Industrial Gases equipment - regulators, hoses, trolleys, brackets
- Fume Extraction Solutions for both fixed and on-torch fume extraction
- Abrasives incl. slitting, cutting & grinding discs, abrasive sheets, rolls & carbide burrs
- Power & hand tools
- Welding machine calibration, service and repair
- Workshop machinery incl. Air compressors, pillar drills & welding positioners
- CP7 Gas equipment safety checks
- Comprehensive range of gases for welding and cutting in varying package types and size to suit your operational needs

We also supply everything you and or your employees/students need to weld safely and comfortably:

Welding Helmets

(PAPR) Powered
Air Purifying
Respirators

Welding
Gauntlets, Gloves

Welding Work-
wear - Coveralls,
Jackets, Boots

Personal
Protective
Equipment

Welding
Equipment

Welding
Consumables



Contact Energas today via your local branch to speak to a gas and equipment expert:

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