

# WALL COLMONOY GLASS CONTAINER INDUSTRY



**WALLCOLMONOY**

**Wall Colmonoy** is a global materials engineering group of companies engaged in the manufacturing of surfacing and brazing products, castings, and engineered components across aerospace, automotive, glass container, oil & gas, energy and other industrial sectors.

Known for our unique proven way of creating superior performing alloys that enhance engineered components, we pride ourselves on long-term strategic customer collaboration that produces value-added ideas and creative solutions.

Combining over 80 years of engineering technology with a progressive, visionary outlook, Wall Colmonoy offers customers trusted, customised expertise that results in smart innovation and shared growth.

**MAKING METALS WORK HARDER SINCE 1938.**

# WALL COLMONOY GLASS CONTAINER INDUSTRY

**The pioneer and leading developer of Surfacing Alloys for the Glass Container industry, Wall Colmonoy has been protecting and restoring glass moulds for over 70 years.**

Wall Colmonoy provides specially formulated wear-resistant **COLMONOY®** (nickel-based) and **WALLEX®** (cobalt-based) Surfacing Alloys including Tungsten Carbide Composite alloys for Plunger Manufacture.

**COLMONOY®** and **WALLEX®** have outstanding metallurgical and physical properties which extend the life of parts subject to wear & corrosion. The alloys are applied in a wide range of proven surfacing and thermal spraying techniques, including Laser Cladding, PTA, HVOF, and Spray & Fuse.

Wall Colmonoy also manufactures equipment to apply **COLMONOY®**, **WALLEX®**, or other hard surfacing alloys.

Wall Colmonoy's **Fusewelder™ Torch** and **Spraywelder™ System** were specially developed to extend the service life of glass mould components.

Wall Colmonoy also produces engineered cast or fully machined glass mould Precision Components. Made from our superior performing **COLMONOY®** or **WALLEX®** Alloys or customer-specific alloys using Investment, Centrifugal, Sand Cast or Vacuum Cast Processes. Engineered components are designed to optimise wear, corrosion, abrasion and heat resistant properties.

Our manufacturing facilities in North America and Europe are equipped with modern laboratory and testing facilities. Our products are manufactured to quality standards set by international and national industrial associations. We maintain quality assurance to ISO 9001.



# APPLICATION OVERVIEW

ALLOY	HRC (NOMINAL)	PTA	FUSEWELDER	HVOF	SPRAYWELDER	LASER	SUGGESTED USES
Colmonoy 225	16		✓				Edges
Colmonoy 226	20		✓				Blow heads, edges and repairs blow-blow plungers, guide rings, baffles
Colmonoy 30	24	✓				✓	Neck rings, general purpose
Colmonoy 215	24	✓				✓	Baffle plates, neck rings
Colmonoy 227	25	✓	✓			✓	Bottom plates
Colmonoy 23	27		✓				Guide rings, baffles
Colmonoy 25	27	✓	✓				Plungers, baffles
Colmonoy 211	28	✓				✓	Baffle plates, neck rings
Colmonoy 22	30		✓				Bottle moulds, cast iron parts
Colmonoy 33	30	✓	✓			✓	Neck rings, general purpose
Colmonoy 228	30		✓			✓	Guide sleeves, preform blanks, bottom plates, funnels
Colmonoy 229	30		✓			✓	Bottle moulds, cast iron parts
Colmonoy 230	30		✓				Guide plates and baffles
Colmonoy 234	34	✓	✓			✓	Neck rings, blow-blow plugs
Colmonoy 236	34	✓	✓			✓	Neck rings, blow-blow plugs
Colmonoy 315	34	✓				✓	Baffle plates, neck rings
Colmonoy 42	37	✓		✓	✓		Plungers, blank moulds, blow moulds, bottom plates, guide rings and baffle plates
Colmonoy 43	37		✓			✓	Bottom plates, guide rings
Colmonoy 237	37	✓	✓			✓	Neck rings, blow-blow plugs
Colmonoy 52	48	✓		✓	✓		Plungers, blank moulds, blow moulds, bottom plates, guide rings and baffle plates
Colmonoy 49W-H	55			✓			Plungers
Colmonoy 50W-H	55			✓			Plungers
Colmonoy 62	58			✓	✓		Plungers
Colmonoy 72	58	✓		✓	✓	✓	Plungers
Colmonoy 55W-H	60			✓			Plungers
Colmonoy 88	60	✓	✓	✓	✓	✓	Plungers
Wallex 42	44	✓		✓	✓	✓	Plungers
Wallex 50	60	✓		✓	✓	✓	Plungers

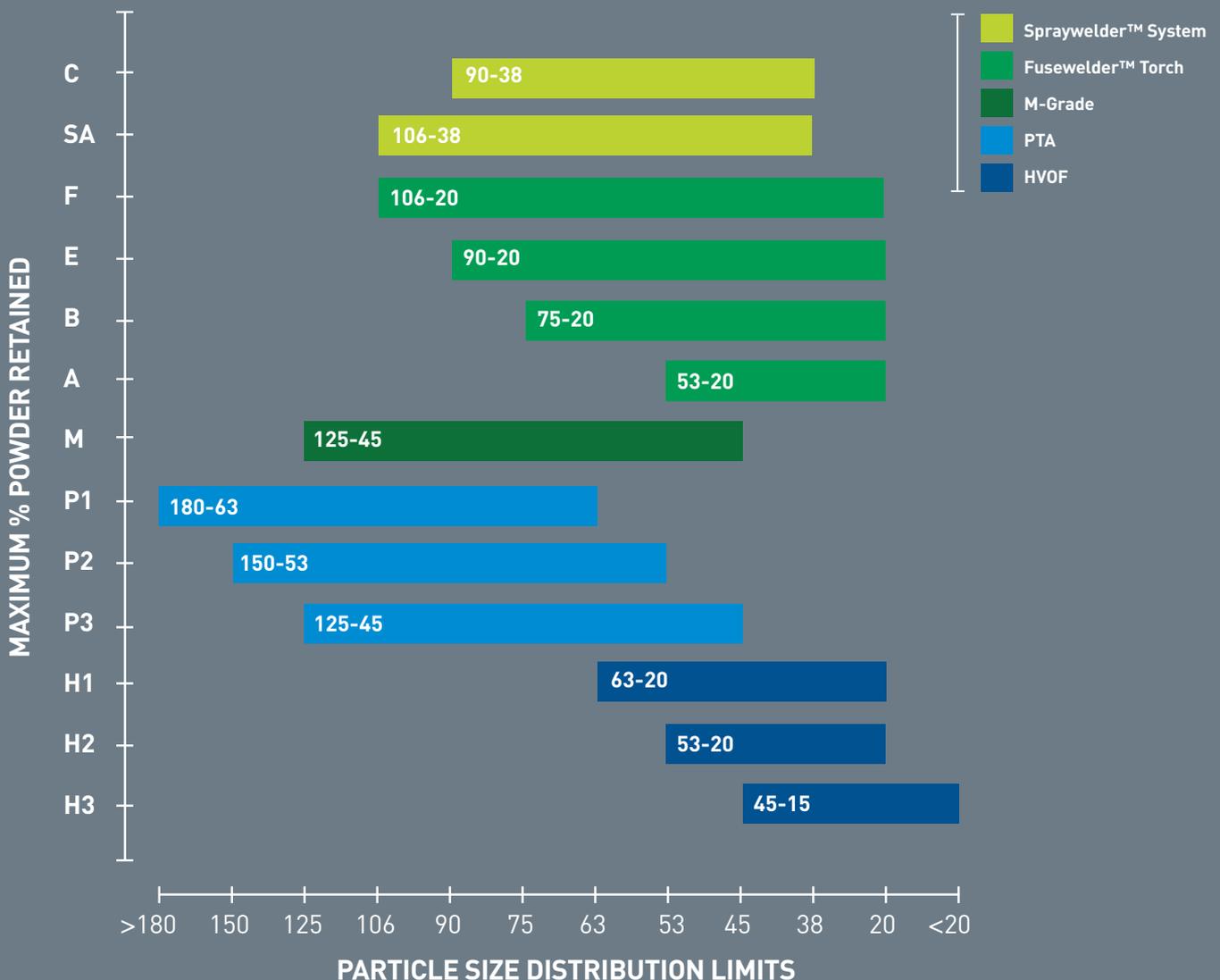
For additional information, please refer to our Selector Charts



# PARTICLE SIZE RANGE

COLMONOY® SURFACING ALLOYS ARE AVAILABLE IN A RANGE OF SIZES DESIGNED TO MEET YOUR REQUIREMENTS.

EQUIPMENT	NOMINAL PARTICLE RANGE (µm)	MESH SIZE
Spraywelder™ J-3 System	106 - 38	140 / 400
Fusewelder™ Torch	106 - 20	140 / 625
M-Grade	125 - 45	120 / 325
PTA	<b>P1:</b> 180 - 63 <b>P2:</b> 150 - 53 <b>P3:</b> 125 - 45	<b>P1:</b> 80 / 230 <b>P2:</b> 100 / 270 <b>P3:</b> 120 / 325
HVOF	<b>H1:</b> 63- 20 <b>H2:</b> 53 - 20 <b>H3:</b> 45 - 15	<b>H1:</b> 230 / 625 <b>H2:</b> 270 / 625 <b>H3:</b> 325 / 800
Laser	<b>P2:</b> 150 - 53 <b>P3:</b> 125 - 45	<b>P2:</b> 100 / 270 <b>P3:</b> 120 / 325



# COLMONOY® SURFACING ALLOYS

## REPAIR AND PROTECTION OF GLASS MOULDS

**Range of alloys specifically designed for the Glass Container Industry for repair and protection of glass moulds.**

After decades of extensive research and field tests, Wall Colmonoy developed a new generation of wear-resistant alloys specially formulated for the glass container industry.

**COLMONOY®** surfacing alloys are nickel-based powders containing special wetting agents which produce high bond-strength deposits with virtually no overspray adherence. The alloys provide

porosity-free, low coefficient-of-friction finishes for producing high-quality glass products.

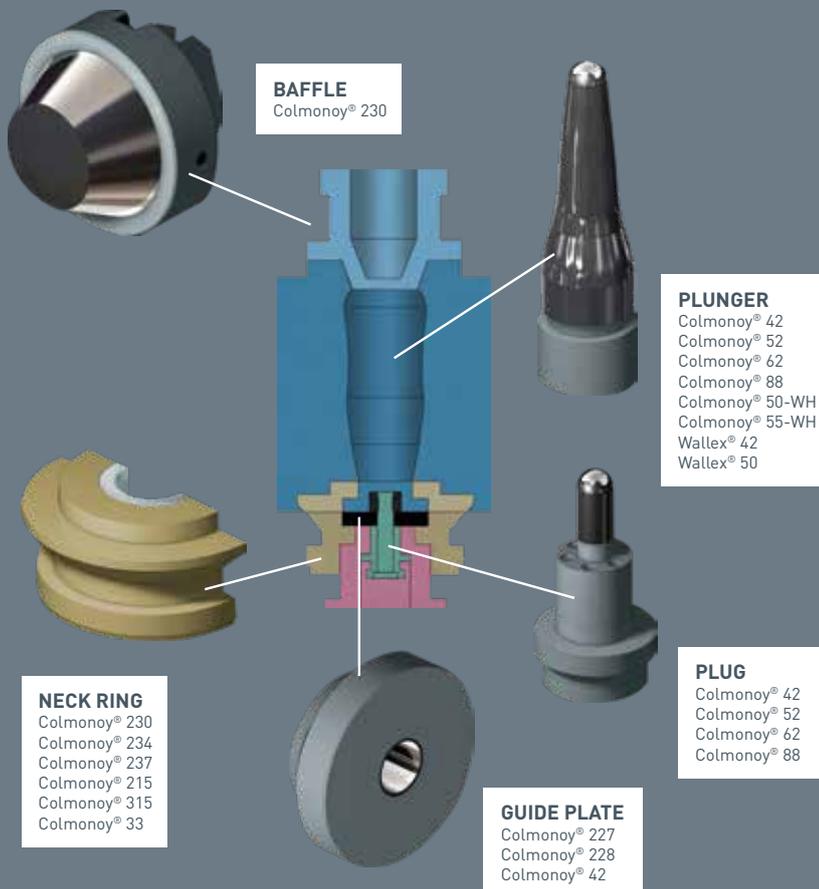
**COLMONOY®** alloys bond to most base metals including cast iron, carbon steels, stainless steels, aluminium-bronze alloys and nickel.

The extremely low application temperature permits faster and easier weld overlays.

Available as **Fusewelder™** powder for application with Wall Colmonoy's **Fusewelder™ Torch**.

**COLMONOY®** alloys are effective on a variety of components.

## ALLOYS FOR COST SAVING AND INCREASED PRODUCTIVITY



### APPLICATION

- Powders optimised for application method - Laser, PTA, HVOF, Fuseweld™ and Spray & Fuse
- Minimal preheating
- Fast wetting action
- Low bonding temperatures

### FINISHING

- By turning, milling and polishing
- Smooth finish

### PERFORMANCE

- Extended mould life
- Resistant to hot wear and abrasion
- Facilitates Repairs

### REPAIR

- Superior hot stiff build-up, minimal overspray, quickly and easily filed

### PROTECTION

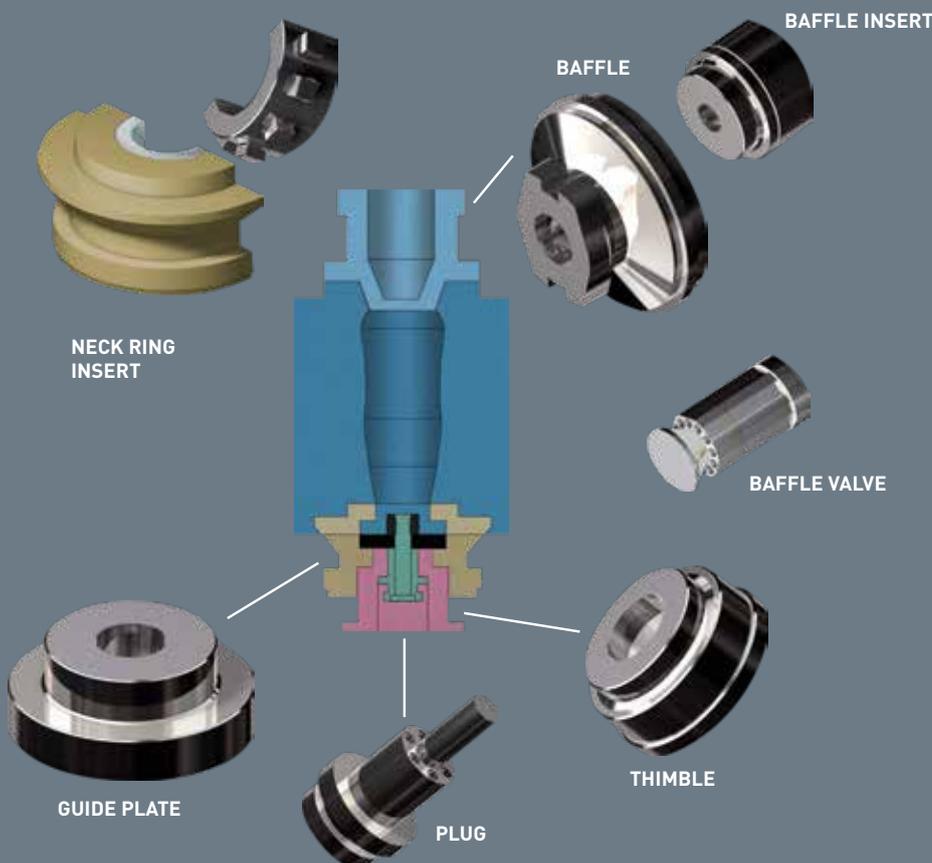
- Superior wetting properties and deposits, easily machined to smooth, glass-like finishes.

# PRECISELY ENGINEERED COMPONENTS

FOR GLASS CONTAINER INDUSTRY

COLMONOY® (nickel-based)

ALLOY	NOMINAL COMPOSITION (%)						NOMINAL HARDNESS
	C	Cr	B	Si	Fe	Ni	HRC
19	0.1	1.0	0.5	3.5		Bal	19
26B	0.1	3.0	1.5	2.2		Bal	26
30D	0.1	0.2	2.1	2.8		Bal	32
40G	0.25	7.0	1.2	4.0	5.0	Bal	32
40D	0.2	0.2	2.6	3.2		Bal	38
44K	0.1	4.5	1.2	4.0		Bal	38



## ADVANTAGES

- Improve heat transfer and mould-ware performance
- Can be cost effective compared to hardfacing
- Reducing machining times (typically 1mm/0.040 ins max.)
- Cost effective in long production runs



#### **WORLD HEADQUARTERS**

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**WALLCOLMONOY**

**Wall Colmonoy. Making Metals Work Harder Since 1938.**

CINCINNATI | LOS LUNAS | OKLAHOMA CITY | PUNE (INDIA) | WALES (U.K.) | WINDSOR (CANADA)

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