PRECISION COMPONENTS SELECTOR CHART

WALLCOLMONOY
PRECISION COMPONENTS

WALLEX®
(cobalt-based)

ALLOY	NOMINAL COMPOSITION (%)									ROCKWELL HARDNESS (C-scale)	DESCRIPTION AND GENERAL USES
	C	Cr	Fe	Mn	Mo	Ni	Si	W	Co		
CoCrW Alloys											
3	2.4	31	3 max	1.5 max	2 max	3.5 max	1.5 max	13	Bal	51-58	High abrasion and corrosion resistance. Commonly used for pump components, extrusion dies and rotary seals. Widely applied in chemical processing and food industry environments.
4	1.0	30	3 max	1 max	1 max	3 max	1.5 max	14	Bal	42-49	Excellent corrosion resistance and high-temperature wear resistance. Suitable for pump sleeves, impellers, hot press components and extrusion dies, including battery manufacturing applications.
6	1.1	29	3 max	1 max	3 max	3 max	2 max	4.5	Bal	38-43	Improved ductility and impact resistance compared to Wallex 3, while maintaining strong corrosion resistance. used in petrochemical valve components such as seat rings, guides and plus, and in galvansiing plant bearings.
12	1.5	30	3 max	1 max	3 max	3 max	2 max	8.5	Bal	43-48	Good balance of abrasion, heat and corrosion resistance with moderate impact strength. Typically used for cutting tools and valve seat applications.
19	1.8	30	3 max	1 max	1 max	3 max	1.5 max	10.5	Bal	48-53	Higher wear resistance than Wallex 12, with reduced ductility and impact strength. Suitable for ball race bearings and components where wear resistance is critical.
20	2.3	31	3 max	1.5 max	3 max	3 max	1.5 max	16	Bal	49-59	High resistance to abrasion and corrosion. Commonly used for valve seats, balls and stems in food processing equipment, as well as seaming rolls in canning operations.
20/1040	2.0	31	3 max	1.5 max	3 max	3 max	1.5 max	16	Bal	49-56	Similar to Wallex 20 but with increased impact resistance. Widely used for food insutry components requiring enhanced toughness.
25	0.1	20	3 max	2 max	1 max	10	0.5 max	15	Bal	29 max	Excellent corrosion and erosion resistance with superior impact strength compared to Wallex 6. Used for wear sleeves and components in power generation applications.
31	0.5	26	2 max	1 max	0.5 max	10.5	1 max	7.5	Bal	30-34	Similar to Wallex 25 with increased wear resistance. Suitable for heat shields and air box components in power generation sytems.
34G	0.5	29	15	-	1.5 max	1 max	0.75 max	0.5	Bal	35-40	Developed for enhanced wear resistance and improved hot hardness. Primarily used in glass manufacturing equipment.
CoCrMo Alloys											
21	0.3 max	27	3 max	1 max	5.5	2.7	2 max	0.5 max	Bal	30-35	Excellent resistance to thermal cycling and thermal shock. Commonly used for cutting knives in hot steel cropping applications.
140	0.1 max	8	1.5 max	-	28	1.5 max	2.5	0.2 max	Bal	51-58	Superior corrosion resistance. Used for valve seats, bushes and actuator rods, particularly in diesel engine environments.
180	0.15 max	13	3 max	1 max	28	1.5 max	2.7	0.2 max	Bal	50-55	Similar to Wallex 140 with balanced wear and corrosion resistance. Suitable for wear sleeves and bushes in steel processing lines.

PRECISION COMPONENTS SELECTOR CHART

WALLCOLMONOY
PRECISION COMPONENTS

COLMONOY®
(nickel-based)

ALLOY	NOMINAL COMPOSITION (%)									ROCKWELL HARDNESS (C-scale)	DESCRIPTION AND GENERAL USES
	B	C	Cr	Fe	Mo	Si	W	Ni	Others		
GLASS CONTAINER											
19	0.5	0.1	1.0			3.5		Bal		16-23	Nickel-based alloy offering good resistance to wear and corrosion with moderate hardness. Suitable for glass container components where moderate service conditions apply.
26B	1.5	0.1	3.0			2.2		Bal		24-28	Improved wear resistance over Colmonoy 19 with higher hardness. Used for glass tooling components requiring increased durability under moderate thermal conditions.
30D	2.1	0.1	0.2			2.6		Bal		30-35	Cast nickel alloy designed for glass container production. Maintains hardness at elevated temperatures and withstands repeated theral cycling without degradation.
40D	2.6	0.2	0.2			3.2		Bal		35-40	Higher hardness version of 30D, offering improved wear resistance while retaining excellent thermal stability. used for demanding glass container tooling applications.
40G	1.2	0.25	7.0	5.0		4.0		Bal		29-34	Wear and corrosion resistant nickel alloy with moderate hardness. Can be machined using carbide tooling at low speeds and light feeds. Suitable for precision glass tooling components.
44K	2.2	0.1	4.5			4.0		Bal		38-43	High hardness cast nickel alloy for glass manufacturing. Commonly used for baffles, guide plates, plungers and other heavily loaded tooling components.
GENERAL ENGINEERING											
6	3.0	0.70	14.3	4.0		4.25		Bal		56-61	High hardness nickel based alloy with excellent abrasion andw ear resistance. Suitable for severe wear environments and components requiring long service life.
5	2.1	0.45	12.0	4.0		3.8		Bal		45-50	Balanced wear and corrosion resistance with moderate hardness. used for general engineering components where a combination of durability and toughness is required,
4	2.1	0.40	10.0	2.5		2.8		Bal		35-40	Lower hardness alloy with good machinability and moderate wear resistance. Suitable for applications requiring easier fabrication and finishing.