

SURFACING ALLOYS TECH-HVOF SELECTOR CHART



COLMONOY®
(nickel-based)

ALLOY	NOMINAL COMPOSITION (%)									ROCKWELL HARDNESS (C-scale)	SUPPLIED AS	DESCRIPTION AND GENERAL USES
	B	C	Cr	Fe	Mo	Si	W	Ni	Others			
with Chromium Carbide												
42	1.8	0.5	10.0			3.2		Bal		35-40	Atomised Powder	Better ductility, less hardness and slightly less abrasion and more corrosion resistance than Colmonoy 52. Finished by carbide tools and grinding.
52	2.5	0.5	13.5	4.5		3.3		Bal		45-50	Atomised Powder	Similar to Colmonoy 62, but has increased ductility with slightly lower abrasion resistance and similar corrosion resistance. Finished by grinding.
62	2.9	0.6	16.5	4.5		4.5		Bal		55-62	Atomised Powder	Hard nickel-chromium-boron alloy containing chromium carbides. Excellent abrasion and corrosion resistance. Finished by grinding.
69	3.0	0.7	14.0	4.0	2.2	4.5		Bal	Cu: 2.0	57-63	Atomised Powder	Abrasion resistant alloy enhanced with more chromium and molybdenum for better corrosion resistance. Finished by grinding.
88R-H	2.6	0.6	13.8	3.8		3.7	15.0	Bal		57 (nominal)	Atomised Powder	Tungsten rich hardfacing alloys specifically designed for use in the production of steel bodied plungers for the glass container industry.
88¹	3.0	0.8	17.0	3.5		4.0	17.0	Bal		58-64	Atomised Powder	A unique alloy containing chromium and tungsten borides and carbides for maximum abrasion and corrosion resistance. For high temperature, highly abrasive applications. Finished by grinding or CBN tools.
Contains Tungsten Carbide Particles												
48W-H	1.7	2.3	7.8	2.0		2.6	27.5	Bal	Co: 4.0	≥55 (nominal)	Atomised Powder	Tungsten rich hardfacing alloys specifically designed for use in the production of steel bodied plungers for the glass container industry.
49W-H	1.3	2.4	7.5	2.3		2.3	31.0	Bal	Co: 4.6	≥55 (nominal)	Atomised Powder	Tungsten rich hardfacing alloys specifically designed for use in the production of steel bodied plungers for the glass container industry.
50W-H	1.6	2.5	7.0	2.3		2.2	33.8	Bal	Co: 5.0	≥55 (nominal)	Atomised Powder	Tungsten rich hardfacing alloys specifically designed for use in the production of steel bodied plungers for the glass container industry.
55W-H	1.4	3.0	6.0	1.8		1.9	41.0	Bal	Co: 6.0	≥60 (nominal)	Atomised Powder	Tungsten rich hardfacing alloys specifically designed for use in the production of steel bodied plungers for the glass container industry.

¹ U.S. Patent No. 5,141,571

SURFACING ALLOYS TECH-HVOF SELECTOR CHART



WALLEX®
(cobalt-based)

ALLOY	NOMINAL COMPOSITION (%)									ROCKWELL HARDNESS (C-scale)	SUPPLIED AS	DESCRIPTION AND GENERAL USES
	B	C	Cr	Fe	Mo	Si	W	Ni	Others			
Cobalt Spray and Fuse Alloys												
42	1.7	0.9	18.5	2.5	13.5	3.0	8.0	Bal		45-50	Atomised Powder	A cobalt-nickel alloy powder that forms deposits similar to those of Wallex 50, but softer. Finished with carbide tools and grinding. Developed as a lower temperature alternative for many cobalt applications.
50	3.7	0.8	19.0	2.5	18.0	2.8	10.0	Bal		56-61	Atomised Powder	Good corrosion resistance and low coefficient-of-friction provides good metal-to-metal wear protection (not involving much impact). For bushings, knives, and cams. Finished by grinding.
SF 20	3.5	1.3	19.0	1.5	13.0	3.0	16.0	Bal		57-65	Atomised Powder	Wallex SF 20 is a sprayable self fluxing cobalt alloy powder which offers a combination of high hardness and excellent abrasion resistance. Can be finished by grinding.
Contains Tungsten Carbide Particles												
55 & 505	2.1	2.4	12.3	1.2	11.0	1.8	35.0	Bal		58 minimum	Atomised Powder	Wallex 50 and 505 have been successful in lowering replacement costs on many different parts including: shaft sleeves, pump components, bushings, buffing fixtures, cutting tool chip breakers and high temperature, un-lubricated sleeve bearings operating in liquid sodium, liquid potassium and NaK.
Cobalt alloy with 35% Tungsten Carbide particles												

The information provided herein is given as a guideline to follow. It is the responsibility of the end user to establish the process information most suitable for their specific application[s].
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