

# SURFACING ALLOYS WALLEX SELECTOR CHART



**WALLEX®**  
(cobalt-based)

ALLOY	NOMINAL COMPOSITION (%)									ROCKWELL HARDNESS (C-scale)	SUPPLIED AS	DESCRIPTION AND GENERAL USES
	B	C	Cr	Fe	Ni	Si	W	Co	Others			
<b>Cobalt Spray and Fuse Alloys</b>												
<b>42</b>	1.7	0.9	18.5	2.5	13.5	3.0	8.0	Bal		45-50	Sprayweld, HVOF, PTA	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-6 applications.
<b>50</b>	3.7	0.8	19.0	2.5	18.0	2.8	10.0	Bal		56-61	Sprayweld, HVOF	Wallex® 50 is a self-fluxing, sprayable cobalt alloy powder with excellent corrosion and abrasion resistance. It is considered a suitable alternative to Wallex® 1.
<b>SF 20</b>	3.5	1.3	19.0	1.5	13.0	3.0	16.0	Bal		57-65	Sprayweld, HVOF	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.
<b>Contains Tungsten Carbide Particles</b>												
<b>55 &amp; 505</b>	2.1	2.4	12.3	1.2	11.0	1.8	35.0	Bal		58 minimum	Sprayweld, HVOF	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, unlubricated sleeve bearings operating in liquid sodium, liquid potassium and NaK.
Cobalt alloy with 35% Tungsten Carbide particles												
<b>HVOF / PTA / Laser Alloys</b>												
<b>21</b>		0.25	27.0	3 max	2.75	1 max		Bal	Mo: 5.5	28-35	HVOF, PTA, Laser Cladding	A cobalt-chromium-molybdenum based alloy with excellent high temperature properties. Combined resistance to galling, cavitation, erosion and corrosion with toughness and work hardening properties.
<b>6</b>		1.0	28.0	2.0	3 max	1.25	4.5	Bal		38-46	HVOF, PTA, Laser Cladding	Excellent resistance to wear, galling and corrosion to high temperatures. This versatile hardfacing alloy's uses include for hot shear knives and blades, hot trim dies, pump shafts and bearings, erosion shields, heat shields, valve seats and gates.
<b>12</b>		1.5	29.0	2.0	3 max	1.5	8.5	Bal		43-53	HVOF, PTA, Laser Cladding	Wallex® 12 is a good choice for abrasive wear under high heat and corrosive conditions. Proven applications include cutting edges of blades in textile and carpet industries, saw tips in the timber industry, engine valves.
<b>1</b>		2.5	30.0	2.0		1.7	12.5	Bal		50-58	PTA, Laser Cladding	Good corrosion resistance and low coefficient of friction gives good metal on metal wear protection (low impact). Applications include bushings, knives, cams, seal-rings, wear pads.

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). Wall Colmonoy Limited (UK) assumes no responsibility for failure due to misuse or improper application of this product, or for any incidental damages arising out of the use of this material.