

# METALTROPOLIS SUPPLIES

SPECIALIST IN WEAR RESISTANT PRODUCTS & SOLUTIONS

## SPECIALTY POWDERS - PROPERTIES & APPLICATION METHODS

Alloy Name	Nominal Composition	Typical Hardness HRC	ABRASION		EROSION		High Temp. Hardn.	Cavitation	Metal to Metal	Galling	Impact	CORROSION						Weldability	APPLICATION METHOD								
			High Stress	Low Stress	Low Angle	High Angle						Gen. Corros.	Reduc. Acid	Oxid. Acid	Molten Salt	Liquid Metal	+ Wear		HVOF	PTA	Laser Clad	Spray & Fuse	Manual Torch	Plasma Spray	MIG <sup>2</sup>		
<b>Cobalt Base - Carbide Type</b>																											
<b>Alloy 1</b>	30Cr-12W-1.5Si-1.5Ni-0.5Mo-1.5Fe-2.5C	53-60	E	E	E		E	E	E	E	NR	S	S	S	S	S	S	S	S	S	•	•	•	•	•	•	
<b>Alloy 6</b>	29Cr-4.5W-1.5Si-1.5Ni-0.5Mo-1.5Fe-1.2C	38-46		S		E	E	E	E	E											E	•	•	•	•	•	•
<b>Alloy 12</b>	29Cr-8W-1.5Si-1.5Ni-0.5Mo-1.5Fe-1.6C	46-52		S			E	E	E	E	S	G	G	G	G	G	G	G	G	E	•	•	•	•	•	•	
<b>Nickel Base - Boride Type</b>																											
<b>SP30</b>	1.8B-2.7Si-0.8Fe	28-32				G	S		S	S	S	S							S	E	•	•	•	•	•	•	•
<b>SP40</b>	2.1B-3Si-0.8Fe-0.05C	36-42				G	S		S	S	S	S							S	E	•	•	•	•	•	•	•
<b>SP44</b>	7Cr-1.7B-3.5Si-2.5Fe-0.4C	38-42				G	S		S	S	S	S							S	E	•	•	•	•	•	•	•
<b>SP45</b>	12Cr-2.4B-3Si-3Fe-0.5C	45-50	E	E	G	G	S		S	S	S	S							S	E	•	•	•	•	•	•	•
<b>SP56</b>	12.5Cr-2.7B-3.3Si-3.3Fe-0.6C	50-55	E	E	G	G	S		S	S	S	S							S	E	•	•	•	•	•	•	•
<b>SP46</b>	14Cr-3B-3.8Si-3.8Fe-0.8C	56-62	E	E	G	G	S		S	S	NR	S							S	G	•	•	•	•	•	•	•
<b>SP72</b>	12Cr-13W-3.2B-3Si-4Fe-0.5C	57-62	E	E	G	G	S		S	G	G	G	G						S	E	•	•	•	•	•	•	•
<b>SP88</b>	13Cr-17W-3B-4Si-3.5Fe-0.6C	59-64	E	E	G	G	S		S	G	G	G	G	G					S	G	•	•	•	•	•	•	•
<b>Cobalt Base - Intermetallic Type</b>																											
<b>T400</b>	8Cr-28Mo-2.4Si-1Ni-1Fe-0.1C	50-52		S	G		E	E	E	E	S	E		S	S				S	S	•	•	•			•	•
<b>T800</b>	17Cr-28Mo-3.2Si-1Fe-0.1C	53-55	E	S	G		E		E	E	NR	E		E	S				E	S	•	•	•			•	•
<b>Co or Ni Base - Solid Solution Type</b>																											
<b>Alloy 21</b>	Co-27Cr-10Ni-5.5Mo-0.6Si-1Fe-0.3C	30-43		S			E	E	E	E	E	S	S	S	S	S	S	S	G	E	•	•	•			•	•
<b>Supernet</b>	Co-26Cr-6Mo-2W-9Ni	30-45		S	G	G	E	E	E	E	E	G	S	E	S	S	G	E	E	E	•	•	•			•	•
<b>Alloy C</b>	Ni-17Cr-17Mo-4.5W	20	NR	NR	S		S				E	E	E						E	E	•	•	•			•	•
<b>Alloy C276</b>	Ni-15Cr-16Mo-3.5W	-	NR	NR			S				E	E	E	E					E	E	•	•	•			•	•
<b>Alloy 625</b>	Ni-21Cr-9Mo-4Nb+Ta	-	NR	NR			S				E	E		E					E	E	•	•	•			•	•
<b>Alloy C22</b>	Ni-22Cr-13.5Mo-3W	-	NR	NR			S				E	E	E	E					E	E	•	•	•			•	•
<b>Alloy 718</b>	Ni-21Cr-3Mo-17Fe-5Nb	-	NR	NR							E	E	E						E	E	•	•	•			•	•
<b>Co or Ni Alloy + Carbide</b>																											
<b>40605</b>	NiCrBSi + 60%MWC*	50+HRA91	E	E	G						NR	S							S	E	•	•	•			•	•
<b>356542</b>	NiCrBSi + 65%WC*	40+HRA91	E	E	G						NR	S							S	E	•	•	•			•	•
<b>3500</b>	75Cr2C3 + 25Ni-Cr	60-62 <sup>1</sup>	G		G	G	E				E		S								•						
<b>2400</b>	WC-12Co	1150DPH <sup>1</sup>			G		G				G		G								•						
<b>2404</b>	WC-10Co-4Cr	1050DPH <sup>1</sup>			G	G	G				E		G								•						
<b>9010N</b>	WC-10Ni				G		G				G		E								•						

\*choice of W<sub>2</sub>C, macro WC, WC-Co or or Spherical WC available

<sup>1</sup> Deposit Hardness, varies with process

<sup>2</sup> metal cored or solid wire

E Excellent  
 G Good  
 S Satisfactory  
 NR Not Recommended

Note: This is a partial list of Metallropolis Supplies Ltd.



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