

## Laser Cladding Powders

Co-Based				
Powder Type	Nom. Composition	FST p/n	Size Range	Typical Properties and Applications
Alloy 1	W 12.0 Cr 31.0 Si 1.0 C 2.5 Co Bal.	<a href="#">M-489.93</a> <a href="#">M-489.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Cobalt based alloy with chemical composition similar to Stellite 1.</li> <li>• Hardest of the standard cobalt base alloys.</li> <li>• Keeping its hardness up to 725 °C, but more crack sensitive than other cobalt based alloys.</li> <li>• High content of carbides in a cobalt matrix, providing excellent resistance to abrasion and solid particle erosion and good general corrosion resistance.</li> </ul>
Alloy 6	W 5.0 Cr 28.0 Si 1.0 C 1.0 Co Bal.	<a href="#">M-484.93</a> <a href="#">M-484.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Most widely used cobalt based alloy, providing excellent resistance to many forms of chemical and mechanical degradation over a wide temperature range.</li> <li>• Good resistance to impact and cavitation.</li> <li>• Keeping hardness up to 500 °C.</li> </ul>
Alloy 12	W 8.5 Cr 30.0 Si 1.5 C 1.5 Co Bal.	<a href="#">M-481.93</a> <a href="#">M-481.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Cobalt based alloy with chemical composition similar to Stellite 12, better abrasion and erosion resistance than Alloy 6, better resistance to impact and thermal shocks than Alloy 1</li> </ul>
T-400	Mo 28,0 Cr 8,5 Si 2.5 Co Bal.	<a href="#">M-494.93</a> <a href="#">M-494.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Co based alloy with chemical composition similar to Triballoy T-400.</li> <li>• High corrosion resistance, high oxidation resistance at elevated temperatures.</li> <li>• High resistance to wear and galling with good hot hardness, resists fretting wear in case of lack of lubrication.</li> </ul>
T-800	Mo 28,0 Cr 17,0 Si 3,0 Co Bal	<a href="#">M-499.93</a> <a href="#">M-499.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• <i>Co based alloy with chemical composition similar to Triballoy T-800.</i></li> <li>• <i>High corrosion resistance, high oxidation resistance at elevated temperatures (higher than T-400).</i></li> <li>• <i>High resistance to wear and galling with good hot hardness.</i></li> </ul>

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Ni-Based				
Powder Type	Nom.Composition	FST p/n	Size Range	Typical Properties and Applications
Alloy 625	Cr 21,5 Mo 9,0 Nb 3,5 Fe <1,5 Ni Bal	<a href="#">M-325.93</a> <a href="#">M-325.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Ni based alloy similar to Inconel 625.</li> <li>• Excellent corrosion resistance in wide range of environments.</li> <li>• High temperature oxidation resistance</li> <li>• Resistance to stress corrosion cracking</li> <li>• Good wear resistance and high ductility.</li> <li>• Typically used for repair and surfacing of similar nickel based super alloys, non-alloyed, low alloyed and high alloyed steels.</li> </ul>
Alloy C-276	Cr 16,0 Mo 15,5 W 4,0 Fe 3,0 Ni bal.	<a href="#">M-341.93</a> <a href="#">M-341.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• Ni based alloy similar to Hastelloy C276.</li> <li>• Excellent corrosion resistance in hot contaminated mineral acids, chlorine and chloride contaminated media.</li> <li>• Resistance to strong oxidisers and wet chlorine gases, resistant to pitting, crevice corrosion and stress corrosion cracking.</li> </ul>
NiCrSiB 40HRC	Cr 10,0 Fe 2,5 Si 3,1 B 2,1 C 0,4 Ni Bal	<a href="#">M-772.93</a> <a href="#">M-772.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• NiCrBSi based alloy with good corrosion and wear resistance, used for applications, where good machinability is required and hardness of 40 HRC is sufficient.</li> </ul>
NiCrSiB 50HRC	Cr 12,5 Fe 3,8 Si 3,7 B 2,2 C 0,55 Ni Bal	<a href="#">M-776.93</a> <a href="#">M-776.95</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• NiCrBSi based alloy with excellent resistance to wear and corrosion in various process media, surfaces resistant to wear by abrasive grains, particle erosion and cavitation, further improvement of abrasion resistance can be achieved by mixing with tungsten carbides.</li> </ul>
NiCrSiBCuMo	Cr 16,5 Fe 3,0 Si 4,5 B 3,8 C 0,55 Cu 2,1 Mo 5,0 Ni Bal	<a href="#">M-777.93</a> <a href="#">M-777.75</a>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>• NiCrBSi based alloy with addition of Cu and Mo, better corrosion resistance in acidic or alkaline media and better resistance to cracking compared to Cu and Mo free NiCrBSi alloys.</li> </ul>

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Ni-Based				
Powder Type	Nom.Composition	FST p/n	Size Range	Typical Properties and Applications
NiCrSiB 60HRC	Cr 16,0 Fe 4,0 Si 4,25 B 3,0 C 0,7 Ni Bal	<b>M-771.93</b> <b>M-771.95</b>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>NiCrBSi based alloy with excellent resistance to wear and corrosion in various process media, surfaces resistant to wear by abrasive grains, particle erosion and cavitation, further improvement of abrasion resistance can be achieved by mixing with tungsten carbides.</li> </ul>

Fe-Based				
Powder Type	Nom.Composition	FST p/n	Size Range	Typical Properties and Applications
316L	Cr 17,0 Ni 12,0 Mo 2,5 Si <0,75 C <0,03 Fe Bal.	<b>M-684.93</b> <b>M-684.95</b>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>Austenitic nickel-chromium steel powder, resistant to corrosion, pitting and intercrystalline corrosion up to temperatures of 400 C, scale resistant up to 800 °C.</li> <li>Easy machining, mirror finishing possible.</li> </ul>
431	Cr 16,0 Ni 2,0 C 0,2 Fe Bal.	<b>M-687.93</b> <b>M-687.95</b>	-125+45μ -150+45μ	<ul style="list-style-type: none"> <li>Martensitic nickel-chromium steel with better corrosion resistance than steels of type 403 or 410, 420 and 430, offering good corrosion resistance and high wear resistance in a variety of applications.</li> </ul>



Laser Cladding Technologies