

AX-Co1P Stellite®1

Alloyed metal powder, gas atomized
Cobalt base hard facing, C-Cr-W alloyed

Standard

EN 14700
DIN 8555
AWS A 5.21

P Co3
Type 20-55 CTZ Type CoCr-C

Area of application

For overlays or armouring of running and contact surfaces on gas, water, steam and acid fittings, heavily stressed hot working tools, valve seats and cones of combustion engines, grinding, stirring, conveying and boring tools, stamping, press moulds and extruder worms.

Highly creep resistant, corrosion resistant, heat resistant up to 900°C, good wear resistance, excellent sliding and abrasion properties, high cavitation resistance, naturally hard, i.e. heat treatment only affects the hardness insignificantly, easy to polish, non-hardenable, weakly magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Cr	W	Co				
2.4	31.0	13.0	Residue				

Material properties

Hardness at 20°C	[HRC]	approx. 53 PTA welding in the 2nd layer
Hardness at 500°C	[HRC]	approx. 43 PTA welding in the 2nd layer

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is still machinable by turning with tungsten carbide tools, however grinding is recommended.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm Other
grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.



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Standard

EN 14700	P Co2
DIN 8555	Type 20-40 CTZ
AWS A 5.21	Type CoCr-C

Area of application

For cladding or armouring of running and contact surfaces on gas, water, steam and acid fittings, heavily stressed hot working tools, valve seats and cones of combustion engines, grinding, stirring, conveying and boring tools, stamping and press moulds. High-temperature resistant, corrosion resistant, heat resistant up to 900°C, good wear and shock resistance, excellent sliding properties, high cavitation resistance, good toughness for hard alloys, good polishing characteristics, non-hardenable, non-magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Cr	W	Fe	Ni	Co			
1.1	28.0	4.5	1.0	1.0	Residue			

Material properties

Hardness at 20°C	[HRC]	approx. 41 PTA welding in the 2nd layer
Hardness at 500°C	[HRC]	approx. 32 PTA welding in the 2nd layer

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.
For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.
The weld metal is still machinable by turning with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm	
Thermal spraying: 20-45 µm	
Other grain sizes on request	

The material is packed in plastic containers of 5 kg. Other packaging units on request.

AX-Co12P Stellite®12

Alloyed metal powder, gas atomized
Cobalt base hard facing, C-Cr-W alloyed

Standard

EN 14700
DIN 8555
AWS A 5.21

P Co2
Type 20-50 CTZ
Type CoCr-B

Area of application

For cladding or armouring of running and contact surfaces on gas, water, steam and acid fittings, heavily stressed hot working tools, valve seats and cones of combustion engines, grinding, stirring, conveying and boring tools, stamping, press moulds and extruder worms.

High-temperature resistant, corrosion resistant, heat resistant up to 900°C, good wear resistance, excellent sliding and abrasion properties, high cavitation resistance, naturally hard, i.e. heat treatment only affects the hardness insignificantly, good polishing characteristics, non-hardenable, weakly magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Cr	W	Co				
1.4	30.0	8.5	Residue				

Material properties

Hardness at 20°C	[HRC]	approx. 48 PTA welding in the 2nd layer
Hardness at 500°C	[HRC]	approx. 40 PTA welding in the 2nd layer

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is still machinable by turning with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

Alloyed metal powder, gas atomized
Cobalt base hard facing,
C-Cr-Mo-Ni alloyed

AX-Co21P
Stellite® 21



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Standard

EN 14700
DIN 8555
AWS A 5.21

P ZCo1
Type 20-300 CKTZ
Type CoCr-E

Area of application

For cladding or armouring of running and contact surfaces on gas, water, steam and acid fittings, heavily stressed hot working tools, valve seats and cones extruder worms. High-temperature resistant, highly corrosion resistant, heat resistant up to 900°C, excellent sliding properties, excellent toughness for hard alloys, naturally hard, i.e. heat treatment only affects the hardness insignificantly, good polishing characteristics, non-hardenable, weakly magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Cr	Mo	Ni	Co				
0.25	28.0	5.0	2.8	Residue				

Material properties

Hardness at 20°C	[HRC]	approx. 32 PTA welding in the 2nd layer
Hardness at 600°C	[HB]	approx. 260 PTA welding in the 2nd layer

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. They spraying process should be carried out directly after the surface preparation.

The weld metal is machinable by turning with tungsten carbide tools, with pressure or shock load the hardness can increase by work hardening.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

AX-Alloy 40P Alloy 40

Alloyed metal powder, gas atomized
Nickel-base hard alloy, Cr-Si-B alloyed

Standard

EN 14700
DIN 8555
AWS A 5.21

P Ni3
Type 22-40 CTGR
Type NiCr-A

Area of application

For coating running and contact surfaces on gas, water, steam and acid fittings, valve seats and cones for combustion engines, grinding, stirring, conveying and boring tools, stamping, press moulds and plungers in the glass industry.

High-temperature resistant, corrosion resistant, good wear resistance, excellent sliding properties, high erosion and cavitation resistance, good polishing characteristics, resistant to thermal shocks, non-magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. Because of the self-flowing properties, this powder quality is very suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Si	Cr	Fe	B	Ni			
0.3	3.5	8.0	3.0	1.6	Residue			

Material properties

Hardness at 20°C [HRC] approx. 40 PTA welding in the 2nd layer

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual adhesive surface preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is still machinable by turning with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

Alloyed metal powder, gas atomized
Nickel-base hard alloy, Cr-Si-B alloyed

AX-Alloy 50P Alloy 50



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Standard

EN 14700	P Ni3
DIN 8555	Type 22-50 CTGR
AWS A 5.21	Type NiCr-B

Area of application

For coating running and contact surfaces on gas, water, steam and acid fittings, valve seats and cones for combustion engines, grinding, stirring, conveying and boring tools, stamping, press moulds and plungers in the glass industry.

High-temperature resistant, corrosion resistant, good wear resistance, excellent sliding properties, high erosion and cavitation resistance, good polishing characteristics, resistant to thermal shocks, non-magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. Because of the self-flowing properties, this powder quality is very suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Si	Cr	Fe	B	Ni			
0.6	3.8	11.0	4.0	2.5	Residue			

Material properties

Hardness at 20°C	[HRC]	approx. 50 PTA welding in the 2nd layer
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General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is still machinable by turning with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

AX-Alloy 60P Alloy 60

Alloyed metal powder, gas atomized
Nickel-base hard alloy, Cr-Si-B alloyed

Standard

EN 14700	P Ni1
DIN 8555	Type 22-60 CTGR
AWS A 5.21	Type NiCr-C

Area of application

For coating running and contact surfaces on gas, water, steam and acid fittings, valve seats and cones for combustion engines, grinding, stirring, conveying and boring tools, stamping, press moulds and plungers in the glass industry.

High-temperature resistant, corrosion resistant, good wear resistance, excellent sliding properties, high erosion and cavitation resistance, good polishing characteristics, resistant to thermal shocks, non-magnetic.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying. Because of the self-flowing properties, this powder quality is very suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Si	Cr	Fe	B	Ni			
0.8	4.3	16.0	4.5	3.5	Residue			

Material properties

Hardness at 20°C	[HRC]	approx. 60 PTA welding in the 2nd layer
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General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The overlay should be machined by grinding. Under special conditions turning with special tungsten carbide tools is still possible.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

Alloyed metal powder, gas atomized
Nickel-base metal powder,
Cr-Mo-Nb-Fe alloyed

AX-625 P

Alloy IN 625

Standard

EN ISO 18274
AWS A 5.14

S Ni 6625 (based on)
ER NiCrMo-3 (based on)

Area of application

For cladding or coating valves for combustion engines, running and contact surfaces on gas, water, steam and acid fittings, heavily stressed hot working tools and parts for the chemical industry. The powder is also suitable for corrosion resistant cladding and coating on cast iron.

High-temperature resistant, corrosion resistant, scale resistant, hot gas corrosion resistant, excellent sliding properties, good polishing characteristics, extremely high resistance against flake crack corrosion and hole corrosion, thermal shock resistant.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying (high velocity (HVOF) and plasma spraying). This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Si	Mn	Cr	Mo	Nb	Fe	Ni
<0.05	<0.5	<0.5	22.0	9.0	3.6	4.0	Residue

General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is machinable with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.

AX-316 P Alloy 316

Alloyed metal powder, gas atomized
Iron-base metal powder, Cr-Ni-Mo alloyed

Standard

EN ISO 14343-A/EN ISO 14343-B DIN 8555 AWS A 5.9	- / SS316 (basis) Type 9-200 CR ER 316 (basis)
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Area of application

For cladding or coating of running and contact surfaces on acid, gas, water and steam fittings at operating temperatures up to 300°C, corrosion resistant coatings in the chemical industry, textile and cellulose industries, beverage production, dyeworks and artificial resin plants.

Austenitic weld metal with low ferrite content, high corrosion resistance from the Mo addition particularly suitable for stresses from chloride containing media. With base materials of similar composition the weld metal is resistant to grain disintegration without quenching after welding, operating temperature up to max. 300°C. At higher temperatures applicability is only ensured with media that do not trigger intercrystalline corrosion (IGC).

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying (high velocity (HVOF) and plasma spraying). This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Cr	Ni	Mo	Fe				
0.1	17.0	13.0	2.2	Residue				

Material properties

Hardness at 20°C	[HB]	150-200 PTA welding in the 2nd layer
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General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. They spraying process should be carried out directly after the surface preparation.

The weld metal is machinable with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm Thermal spraying: 20-45 µm Other grain sizes on request
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The material is packed in plastic containers of 5 kg. Other packaging units on request.

Alloyed metal powder, gas atomized
Iron-base metal powder, Cr-Ni-Mo alloyed

AX-316 P/LC Alloy 316L

Standard

EN ISO 14343-A/EN ISO 14343-B	P 19 12 3 L / SS316L (basis)
DIN 8555	Type 9-200 CR
AWS A 5.9	ER 316L (basis)

Area of application

For cladding or coating of running and contact surfaces on acid, gas, water and steam fittings at operating temperatures up to 400°C, corrosion resistant coatings in the chemical industry, textile and cellulose industries, beverage production, dyeworks and artificial resin plants.

Austenitic weld metal with low ferrite content, high corrosion resistance from the Mo addition particularly suitable for stresses from chloride containing media. With base materials of similar composition the weld metal is resistant to grain disintegration without quenching after welding.

Special hints

Metal powder in spherical form for plasma cladding as well as for thermal spraying (high velocity (HVOF) and plasma spraying). This powder quality is not suitable for simultaneous and subsequent melting on during thermal spraying.

Composition of the metal powder (typical data in %)

C	Si	Mn	Cr	Ni	Mo	Fe		
<0.03	0.8	0.1	17.0	12.5	2.25	Residue		

Material properties

Hardness at 20°C	[HB]	150-200 PTA welding in the 2nd layer
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General working guidelines

For cladding the preheat and interpass temperatures are to be determined according to the base material and dimension.

For thermal spraying the surface is to be carefully cleaned of rust, grease and oil before the actual bonding base preparation. The bare metal surface should be roughened by shot-blasting, turning or grinding to enable good interlocking with the spray layer. The spraying process should be carried out directly after the surface preparation.

The weld metal is machinable with tungsten carbide tools.

Product forms

PTA welding: 50-150 µm
Thermal spraying: 20-45 µm
Other grain sizes on request

The material is packed in plastic containers of 5 kg. Other packaging units on request.