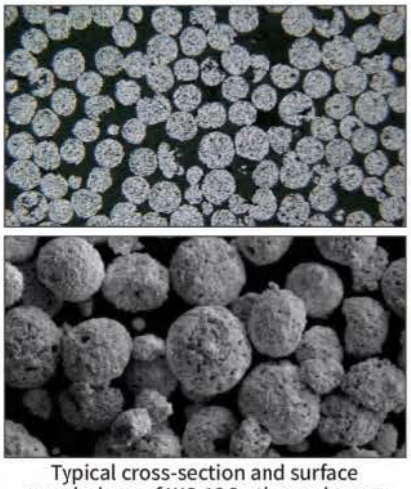
WC-12Co THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered or sintered and crushed gray/black spherical; Agglomerated and sintered powders are spherical or nearly spherical with good flowability; Sintered and crushed powders are irregular.
- ◎ Maximum service temperature:500°C.
- ◎ The dense coating with high hardness, and has resistance to abrasive wear, fretting wear, adhesive wear and erosion wear.
- ◎ High fracture toughness.
- ◎ Mainly used in mechanical parts, oil and gas equipment, metallurgical roller and pump seal units, etc.



Typical cross-section and surface morphology of WC-12Co thermal spray powder

Grade & Chemical Composition

牌号	T.C(%)	Co(%)	Fe(%)	O(%)
ZTC42	5.2-6.0	11.5-12.5	≤1.0	≤0.5
ZTC42D	5.2-6.0	11.5-12.5	≤0.15	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4251	WC-Co 88/12 Sintered & crushed	53-20	≥4	≤25	◎ HVOF (JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/k2) ◎ HVAF ◎ APS
ZTC4253		45-20	≥4	≤25	
ZTC4252		45-15	≥4	≤25	
7TC4251D	WC-Co 88/12 Agglomerated &sintered	53-20	≥4	≤18	
ZTC4253D		45-20	≥4	≤18	
7TC4252D		45-15	≥4	≤18	
ZTC4281D		45-11	≥4	≤18	
ZTC4254D		38-10	≥4	≤18	
ZTC4282D		30-10	≥4	≤18	

PS: Supply customized particle size distribution powder.

Coating Deposited & Properties

Cross-section metallograph of WC-12Co coating

Recommanded Spray Parameters(HVOF)	
Material	WC-12Co
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	6
Kerosene(L/h)	22.7
Oxygen(L/min)	944
Carrier gas (Ar)(L/min)	7.5
Powder feed rate(g/min)	70-100
Spraying distance(mm)	350-380

Coatings Properties	
Hardness($HV_{0.3}$)	1100-1300
Bonding strength(MPa)	>70MPa
Deposited efficiency(%)	40-50%
Porosity(%)	<1%

WC-17Co THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered or sintered and crushed gray/black spherical; Agglomerated and sintered powders are spherical or nearly spherical with good flowability; Sintered and crushed powders are irregular.
- ◎ Maximum service temperature:500°C.
- ◎ The dense coating with high hardness, and has resistance to abrasive wear, fretting wear, adhesive wear and erosion wear.
- ◎ Higher fracture toughness than WC-12Co.
- ◎ Mainly used in aircraft landing gear, extrusion die, wire drawing equipment, paper roller, glass industry, crushing roller and pump seal parts, etc.

Typical cross-section and surface morphology of WC-17Co thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Co(%)	Fe(%)	O(%)
ZTC43	4.7-5.2	16.5-17.5	≤1.0	≤0.5
ZTC43D	4.7-5.2	16.5-17.5	≤0.15	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4351	WC-Co 83/17 Sintered & crushed	53-20	≥4	≤25	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4353		45-20	≥4	≤25	
ZTC4352		45-15	≥4	≤25	
ZTC4351D	WC-Co 83/17 Agglomerated &sintered	53-20	≥4	≤18	
ZTC4353D		45-20	≥4	≤18	
ZTC4352D		45-15	≥4	≤18	
ZTC4381D		45-11	≥4	≤18	
ZTC4354D		38-10	≥4	≤18	
ZTC4382D		30-10	≥4	≤18	

PS: Supply customized particle size distribution powder.

Coating Deposited & Properties

Cross-section metallograph of WC-17Co coating

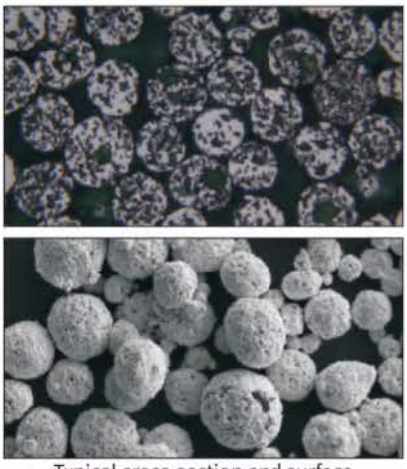
Recommanded Spray Parameters(HVOF)	
Material	WC-17Co
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	6
Kerosene(L/h)	22.7
Oxygen(L/min)	944
Carrier gas (Ar)(L/min)	7.5
Powder feed rate(g/min)	70-100
Spraying distance(mm)	350-380

Coatings Properties	
Hardness($HV_{0.3}$)	950~1200
Bonding strength(MPa)	>70 Mpa
Deposited efficiency(%)	45~55%
Porosity(%)	<1 %

WC-10Co4Cr THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered or sintered and crushed gray/black spherical; Agglomerated and sintered powders are spherical or nearly spherical with good flowability; Sintered and crushed powders are irregular.
- ◎ Maximum service temperature:500°C.
- ◎ Density coatings with high hardness, and has resistance to abrasive wear, corrosion wear and erosion wear.
- ◎ Replacing hard chrome plating.
- ◎ Co/Cr has better corrosion resistance and wear property than Co, especially for wetting and corrosion environment.
- ◎ Mainly used in aircraft landing gear, gate valve, ball valve, paper roller, hydraulic cylinder, compressor rod, metallurgical roller and mechanical parts, etc.



Typical cross-section and surface morphology of WC-10Co4Cr thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Co(%)	Cr(%)	Fe(%)	O(%)
ZTC45	5.0-6.0	9.0-10.5	3.0-4.5	≤1.0	≤0.5
ZTC45D	5.0-6.0	9.0-10.5	3.0-4.5	≤0.15	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4551	WC-Co-Cr 86/10/4 Sintered & crushed	53-20	≥4	≤25	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4553		45-20	≥4	≤25	
ZTC4552		45-15	≥4	≤25	
ZTC4551D	WC-Co-Cr 86/10/4 Agglomerated &sintered	53-20	≥4	≤18	
ZTC4553D		45-20	≥4	≤18	
ZTC4552D		45-15	≥4	≤18	
ZTC4581D		45-11	≥4	≤18	
ZTC4554D		38-10	≥4	≤18	
ZTC4582D		30-10	≥4	≤18	

PS: Supply customized particle size distribution powder.

Coating Deposited & Properties

Cross-section metallograph of WC-10Co4Cr coating

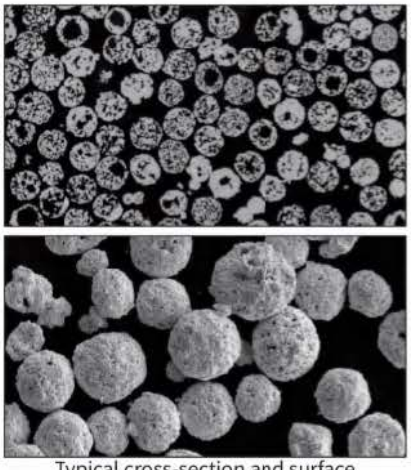
Recommanded Spray Parameters(HVOF)	
Material	WC-10Co4Cr
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	6
Kerosene(L/h)	24
Oxygen(L/min)	944
Carrier gas (Ar)(L/min)	7.5
Powder feed rate(g/min)	70-80
Spraying distance(mm)	340-380

Coatings Properties	
Hardness($HV_{0.3}$)	1150-1400
Bonding strength(MPa)	>70MPa
Deposited efficiency(%)	40-55%
Porosity(%)	<1%

WC-10Ni THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered gray/black spherical or nearly spherical particles with good flowability.
- ◎ Maximum service temperature:500°C.
- ◎ The dense coating with high hardness, and has resistance to abrasive wear, fretting wear, adhesive wear, erosion wear, and corrosion wear.
- ◎ Ni has better corrosion resistance than Co, especially for wetting and corrosion environment.
- ◎ Mainly used in oilfield equipment (strict corrosion performance requirements), petrochemical industry, ball valves, offshore equipment and parts, etc.



Typical cross-section and surface morphology of WC-10Ni thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Fe(%)	O(%)
ZTC47D	5.3-5.8	9.0-11.0	≤0.2	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4751D	WC-Ni 90/10 Agglomerated &sintered	53-20	≥4	≤18	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4753D		45-20	≥4	≤18	
ZTC4752D		45-15	≥4	≤18	
ZTC4781D		45-11	≥4	≤18	
ZTC4754D		38-10	≥4	≤18	
ZTC4782D		30-10	≥4	≤18	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of WC-10Ni coating

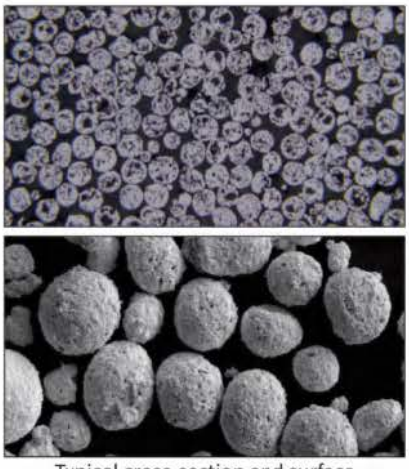
Recommanded Spray Parameters(HVOF)	
Material	WC-10Ni
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	4
Kerosene(L/h)	24
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	8.5
Powder feed rate(g/min)	80-100
Spraying distance(mm)	340-380

Coatings Properties	
Hardness($HV_{0.3}$)	1050~1250
Bonding strength(MPa)	>70 Mpa
Deposited efficiency(%)	40~50 %
Porosity(%)	<1 %

WC-12Ni THERMAL SPRAY POWDER

Description

- ◎ **Agglomerated and sintered gray/black spherical or nearly spherical particles with good flowability.**
- ◎ **Maximum service temperature:500°C.**
- ◎ **The dense coating with high hardness, and has resistance to abrasive wear, fretting wear, adhesive wear, erosion wear, and corrosion wear.**
- ◎ **Ni has better corrosion resistance than Co, especially for wetting and corrosion environment.**
- ◎ **Mainly used in oilfield equipment (strict corrosion performance requirements), petrochemical industry, ball valves (under oxidizing environment), plate valve, offshore equipment and parts, etc.**



Typical cross-section and surface morphology of WC-12Ni thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Fe(%)	O(%)
ZTC4AD	5.2-6.0	11.5-12.5	≤0.5	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4A51D	WC-Ni 88/12 Agglomerated &sintered	53-20	≥3.5	≤18	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4A53D		45-20	≥3.5	≤18	
ZTC4A52D		45-15	≥3.5	≤18	
ZTC4A81D		45-11	≥3.5	≤18	
ZTC4A54D		38-10	≥3.5	≤18	
ZTC4A82D		30-10	≥3.5	≤18	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of WC-12Ni coating

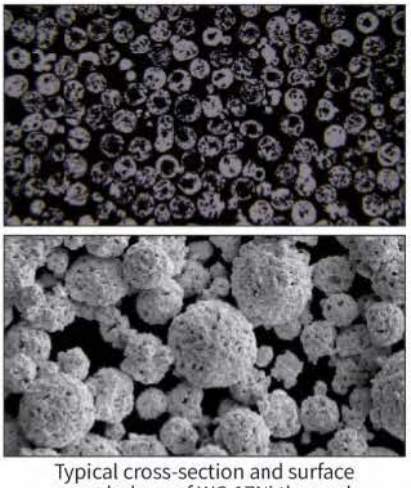
Recommanded Spray Parameters(HVOF)	
Material	WC-12Ni
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	4
Kerosene(L/h)	24
Oxygen(L/min)	900
Carrier gas (Ari(L/min)	8.5
Powder feed rate(g/min)	70-100
Spraying distance(mm)	340-380

Coatings Properties	
Hardness($HV_{0.3}$)	1000-1200
Bonding strength(MPa)	>70MPa
Deposited efficiency(%)	40-50%
Porosity(%)	<1%

WC-17Ni THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered gray/black spherical or nearly spherical particles with good flowability.
- ◎ Maximum service temperature:500°C.
- ◎ The dense coating with high hardness, and has resistance to abrasive wear, fretting wear, adhesive wear, erosion wear, and corrosion wear.
- ◎ Ni has better corrosion resistance than Co, especially for wetting and corrosion environment.
- ◎ Mainly used in oilfield equipment (strict corrosion performance requirements), petrochemical industry, ball valves, offshore equipment and parts, etc.



Typical cross-section and surface morphology of WC-17Ni thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Fe(%)	O(%)
ZTC4BD	4.7-5.2	16.5-17.5	≤0.5	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4B51D	WC-Ni 83/17 Agglomerated &sintered	53-20	≥3.5	≤18	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4B53D		45-20	≥3.5	≤18	
ZTC4B52D		45-15	≥3.5	≤18	
ZTC4B81D		45-11	≥3.5	≤18	
ZTC4B54D		38-10	≥3.5	≤18	
ZTC4B82D		30-10	≥3.5	≤30	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of WC-17Ni coating

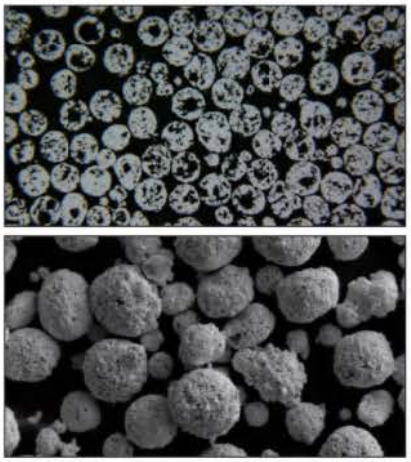
Recommanded Spray Parameters(HVOF)	
Material	WC-17Ni
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45-15
Spray Gun	JP5000
Nozzle(inch)	4
Kerosene(L/h)	23
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	8.5
Powder feed rate(g/min)	80-100
Spraying distance(mm)	340-380

Coatings Properties	
Hardness($HV_{0.3}$)	950~1200
Bonding strength(MPa)	>70 Mpa
Deposited efficiency(%)	40~50 %
Porosity(%)	<1 %

WC-15NiCr THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered gray/black spherical or nearly spherical particles with good flowability.
- ◎ Maximum service temperature:500°C.
- ◎ The dense coating with high hardness, and has resistance to abrasive wear, sliding wear, erosion wear, cavitation.
- ◎ NiCr has better corrosion resistance than Co, CoCr , and excellent resistance to seawater (salt water) corrosiont.
- ◎ Mainly used in oil field equipment, ball valve (oxidizing environment), gate hydraulic lever, transportation container hydraulic lever, petrochemical industry, offshore equipment and parts etc.



Typical cross-section and surface morphology of WC-15NiCr thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Cr(%)	Ni(%)	Fe(%)	O(%)
ZTC4CD	4.7-5.3	2-4	9-11	≤0.5	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4C51D	WC-Ni-Cr 85/12/3 Agglomerated &sintered	53-20	≥3.5	≤18	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4C53D		45-20	≥3.5	≤18	
ZTC4C52D		45-15	≥3.5	≤18	
ZTC4C81D		45-11	≥3.5	≤18	
ZTC4C54D		38-10	≥3.5	≤18	
ZTC4C82D		30-10	≥3.5	≤18	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of WC-15NiCr coating

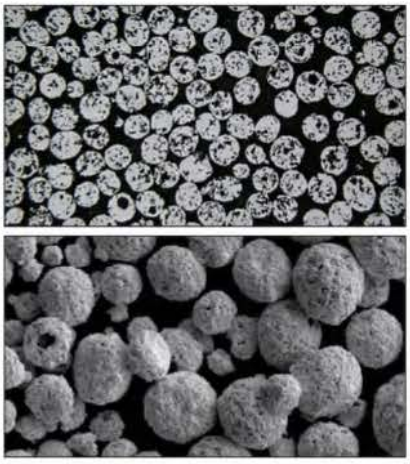
Recommanded Spray Parameters(HVOF)	
Material	WC-15NiCr
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45~15
Spray Gun	JP5000
Nozzle(inch)	6
Kerosene(L/h)	23
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	8.5
Powder feed rate(g/min)	70~80
Spraying distance(mm)	340~380

Coatings Properties	
Hardness($HV_{0.3}$)	1000-1350
Bonding strength(MPa)	>70MPa
Deposited efficiency(%)	35-50%
Porosity(%)	<1%

WC-20Cr_3C_2-7Ni THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered gray/black spherical or nearly spherical particles with good flowability.
- ◎ Maximum service temperature: 750°C.Can be used in humid environments.
- ◎ The dense coating has resistance to oxidation, corrosion, abrasive wear.
- ◎ Anti-oxidation and corrosion resistance are better than WC-Co based coating.
- ◎ Mainly used in iron & steel industry, paper making, pump valves, etc.



Typical cross-section and surface morphology of WC-20Cr_3C_2-7Ni thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Cr(%)	Fe(%)	O(%)
ZTC48D	5.8-6.4	6-8	20-23	≤0.5	≤0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4851D	WC-Cr_3C_2-Ni 73/20/7 Agglomerated &sintered	53-20	≥4	≤18	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4853D		45-20	≥4	≤18	
ZTC4852D		45-15	≥4	≤18	
ZTC4881D		45-11	≥4	≤18	
ZTC4854D		38-10	≥4	≤18	
ZTC4882D		30-10	≥4	≤30	

PS: Supply customized particle size distribution powder.

Coating Deposited & Properties

Cross-section metallograph of WC-20Cr_3C_2-7Ni coating

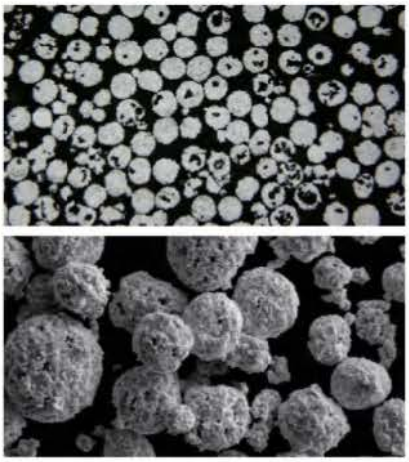
Recommanded Spray Parameters(HVOF)	
Material	WC-20Cr_3C_2-7Ni
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45~15
Spray Gun	JP5000
Nozzle(inch)	6
Kerosene(L/h)	23
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	8.0
Powder feed rate(g/min)	70~80
Spraying distance(mm)	340~360

Coatings Properties	
Hardness($HV_{0.3}$)	950~1200
Bonding strength(MPa)	>70 Mpa
Deposited efficiency(%)	35~45 %
Porosity(%)	<1 %

Cr_3C_2-37WC-18NiCoCr THERMAL SPRAY POWDER

Description

- ◎ Agglomerated and sintered gray/black spherical or nearly spherical particles.
- ◎ Maximum service temperature:700°C.
- ◎ The coating has excellent resistance to sliding wear, abrasive wear, erosion wear, corrosion wear, cavitation and corrosion.
- ◎ High temperature solid/liquid/gas corrosion resistance.
- ◎ Excellent corrosion resistance for high temperature complex corrosion.
- ◎ Mainly used in pump valve parts, power generation boilers, biomass burning boilers, chemical industry, etc.



Typical cross-section and surface morphology of Cr_3C_2-37WC-18NiCoCr thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Co(%)	Ni(%)	Cr(%)	O(%)	Fe(%)
ZTC49D	7.8-8.4	3-4	10.5-12.5	39.5-42.5	≤0.5	<0.5

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC4951D	Cr_3C_2-WC-NiCoCr 45/37/18 Agglomerated &sintered	53-20	≥2.5	–	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC4953D		45-20	≥2.5	–	
ZTC4952D		45-15	≥2.5	–	
ZTC4981D		45-11	≥2.5	–	
ZTC4954D		38-10	≥2.5	–	
ZTC4982D		30-10	≥2.5	–	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of Cr_3C_2-37WC-18NiCoCr coating

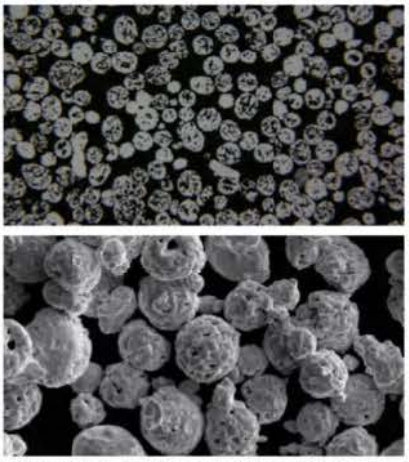
Recommanded Spray Parameters(HVOF)	
Material	Cr_3C_2-37WC-18NiCoCr
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45~15
Spray Gun	Jp5000
Nozzle(inch)	6
Kerosene(L/h)	25
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	7.5
Powder feed rate(g/min)	70~80
Spraying distance(mm)	320~380

Coatings Properties	
Hardness($HV_{0.3}$)	1050-1250
Bonding strength(MPa)	>60MPa
Deposited efficiency(%)	40-48%
Porosity(%)	<3%

Cr_3C_2-20NiCr THERMAL SPRAY POWDER

Description

- ◎ **Agglomerated and sintered gray/black spherical or nearly spherical particles.**
- ◎ **Maximum service temperature:870°C.**
- ◎ **The coating has excellent resistance to sliding wear, abrasive wear, erosion wear, corrosion wear, cavitation and corrosion.**
- ◎ **High temperature solid/liquid/gas corrosion resistance.**
- ◎ **Mainly used in gas turbines, aircraft engines, valve rod, power generation boilers, metallurgical furnace roller and the hydraulic valves, etc.**



Typical cross-section and surface morphology of Cr_3C_2-20NiCr thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Cr(%)	O(%)	Fe(%)
ZTC51D	9.7-10.7	15-17	Bal.	≤0.5	<0.15

PS: "D" stands for spherical or nearly spherical thermal spray powder.

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC5151D	Cr_3C_2-NiCr 80/20 Agglomerated &sintered	53-20	≥2.0	—	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC5153D		45-20	≥2.0	—	
ZTC5152D		45-15	≥2.0	—	
ZTC5181D		45-11	≥2.0	—	
ZTC5154D		38-10	≥2.0	—	
ZTC5182D		30-10	≥2.0	—	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of Cr_3C_2-20NiCr coating

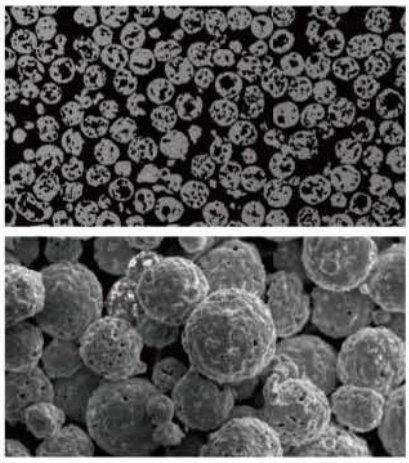
Recommanded Spray Parameters(HVOF)	
Material	Cr_3C_2-20NiCr
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45~15
Spray Gun	Jp5000
Nozzle(inch)	8
Kerosene(L/h)	25
Oxygen(L/min)	920
Carrier gas (Ar)(L/min)	8.0
Powder feed rate(g/min)	50~60
Spraying distance(mm)	320~360

Coatings Properties	
Hardness($HV_{0.3}$)	1100~1250
Bonding strength(MPa)	>50 Mpa
Deposited efficiency(%)	30~45 %
Porosity(%)	<3 %

Cr_3C_2-25NiCr THERMAL SPRAY POWDER

Description

- ◎ **Agglomerated and sintered gray/black spherical or nearly spherical particles.**
- ◎ **Maximum service temperature:870°C.**
- ◎ **The coating has excellent resistance to sliding wear, abrasive wear, erosion wear, corrosion wear, cavitation and corrosion.**
- ◎ **High temperature solid/liquid/gas corrosion resistance.**
- ◎ **Mainly used in gas turbines, aircraft engines, valve rod, power generation boilers, metallurgical furnace roller and the hydraulic valves, etc.**



Typical cross-section and surface morphology of Cr_3C_2-25NiCr thermal spray powder

Grade & Chemical Composition

Grade	T.C(%)	Ni(%)	Cr(%)	O(%)	Fe(%)
ZTC52D	9.1-10.1	19-21	Bal.	≤0.5	≤0.15

Specification & Physical Properties

Spec.	Type	Size Fraction (μm)	Apparent density (g/cm^3)	Flow Rate (s/50g)	Application
ZTC5251D	Cr_3C_2-NiCr 75/25 Agglomerated &sintered	53-20	≥2.0	—	◎ HVOF(JP5000、JP8000/DJ2600、DJ2700/Jet Kote / Woka Jet/K2) ◎ HVAF ◎ APS
ZTC5253D		45-20	≥2.0	—	
ZTC5252D		45-15	≥2.0	—	
ZTC5281D		45-11	≥2.0	—	
ZTC5254D		38-10	≥2.0	—	
ZTC5282D		30-10	≥2.0	—	
PS: Supply customized particle size distribution powder.					

Coating Deposited & Properties

Cross-section metallograph of Cr_3C_2-25NiCr coating

Recommanded Spray Parameters(HVOF)	
Material	Cr_3C_2-25NiCr
Manufacturing	Agglomerated & sintered
Size fraction(μm)	45~15
Spray Gun	JP5000
Nozzle(inch)	8
Kerosene(L/h)	25
Oxygen(L/min)	900
Carrier gas (Ar)(L/min)	7.5
Powder feed rate(g/min)	50~60
Spraying distance(mm)	320~360

Coatings Properties	
Hardness($HV_{0.3}$)	900-1200
Bonding strength(MPa)	>50MPa
Deposited efficiency(%)	30-45%
Porosity(%)	<3%