TeroJet 55-590

TeroJet 55-590 is an agglomerated and sintered Tungsten Carbide-Nickel powder designed specifically for thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-590 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. The use of a nickel matrix improves corrosion resistance as compared to WC-12Co HVOF coatings. In addition, the absence of cobalt renders coatings of 55-590 suitable for selective nuclear applications. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and hard particle erosion can also be expected.

TECHNICAL DATA:
Coating Properties:
- Hardness/R15N: 90-93 (HRC 59-67 converted)
- Coating Density: 13.7 g/cc

Powder Properties:
- Method of Manufacture: Agglomerated and Sintered
- Nominal Size Distribution: -45 + 15 microns
- Chemistry: Tungsten carbide: 90%, Nickel: 10%

TYPICAL APPLICATIONS:
- Knife Blades
- Oil Field Apparatus
- Pump Seals
- Turbine Components
- Exhaust Fan Blades
- Extrusion Dies

TeroJet 55-606

TeroJet 55-606 is a self-fluxing, Nickel based, highly alloyed powder. Coatings of 55-606 may be used in the as-sprayed condition or subsequently fused with a heating torch. The fusing operation will densify the coating and will produce metallurgical bonding to the base metal. For applications where it is desirable to use the coating in the as-sprayed condition HVOF is the preferred method of application. The coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals.

TECHNICAL DATA:
Coating Properties:
- Hardness/R15N: 85-88 (HRC 50-54 converted)
- Coating Density: 7.86 g/cc (as sprayed) 8.10 g/cc (fused)

Powder Properties:
- Method of Manufacture: Water Atomized
- Nominal Size Distribution: -53 + 15 microns
- Chemistry: Nickel: balance, Chromium:18%, Mo: 13%, Silicon: 4.5%, Boron: 2.8%, Cu: 2.5%

TYPICAL APPLICATIONS:
- Waste Incineration
- Chemical Industries
- Extruder Screws
- Pulper and Paper
- Boiler Tubes
- Shafts
- Sleeves
- Mixer Blades

Eutectic HVOF Systems

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YOUR RESOURCE FOR REPAIR, REPAIR AND JOINING SOLUTIONS

Powders Designed for Use with the TeroJet AC Along with a Wide Range of HVOF and Thermal Spray Equipment

- All TeroJet coatings offer good resistance to abrasion
- Hard, dense coatings with excellent corrosion resistance
- May be used with some non-hvof application systems
- Consistant particle size distribution
**TeroJet 55-125**

TeroJet 55-125 is a gas atomized Nickel Chromium alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-125 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution. The chemical composition is comparable to AWS A5.14 class ERNiCrMo-3. The HVOF coatings produced are suitable for a wide range of applications requiring resistance to alkaline, acidic and aqueous salt environments. Coatings of 55-125 are oxidation resistant up to a temperature of 1600°F (871°C).

**TECHNICAL DATA:**

Coating Properties:
- Hardness/R15N: 125 (HRC 35 converted)
- Coating Density: 8.1 g/cc

**Powder Properties:**
- Method of Manufacture: Gas Atomized
- Nominal Size Distribution: -53 + 20 microns
- Chemistry: Nickel: Balance, Chromium: 26.5%, Molybdenum: 9.0%, Iron: 3.0%, Nb + Ta: 3.6%

**TYPICAL APPLICATIONS:**
- Paper Mill Digesters
- Chemical Process Equipment
- High Temperature Environments
- Thermal Spraying of Cast Iron
- Dimensional Restoration of Alloy 625 Turbine Parts

**TeroJet 55-583**

TeroJet 55-583 is an agglomerated and sintered Tungsten Carbide-Cobalt powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-583 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and erosion can also be expected.

**TECHNICAL DATA:**

Coating Properties:
- Hardness/R15N: 90-92 (HRC 59-65 converted)
- Coating Density: 12.8 g/cc

**Powder Properties:**
- Method of Manufacture: Agglomerated and Sintered
- Nominal Size Distribution: -45 + 15 microns
- Chemistry: Tungsten carbide: 83%, Cobalt: 17%

**TYPICAL APPLICATIONS:**
- Compressor Shafts
- Oil Field Apparatus
- Pump Seals
- Compressor Rods

**TeroJet 55-586**

TeroJet 55-586 is an agglomerated and sintered Chromium Carbide-Nickel Chromium Alloy powder designed specifically for thermal spraying. Optimum coating results will be achieved via HVOF. However, 55-586 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and erosion can be expected.

**TECHNICAL DATA:**

Coating Properties:
- Hardness/R15N: 90-93 (HRC 59-67 converted)
- Coating Density: 14.0 g/cc

**Powder Properties:**
- Method of Manufacture: Water Atomized
- Nominal Size Distribution: -63 + 20 microns
- Chemistry: Nickel: Balance, Chromium: 15.5%, Silicon: 3.8%, Boron: 3.2%, Carbon: 0.07%, Iron: 3.5%

**TYPICAL APPLICATIONS:**
- Compressor Shafts
- Oil Field Apparatus
- Pump Seals
- Impellers
- Splined and bearing mandrels

**TeroJet 55-575**

TeroJet 55-575 is an agglomerated and sintered Chromium Carbide-Nickel Chromium Alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-575 powder may also be applied using plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to fretting, abrasion, oxidation and high temperature corrosion can also be expected.

**TECHNICAL DATA:**

Coating Properties:
- Hardness/R15N: 87-88 (HRC 54-56 converted)
- Coating Density: 7.5 g/cc

**Powder Properties:**
- Method of Manufacture: Water Atomized
- Nominal Size Distribution: -63 + 20 microns
- Chemistry: Nickel: Balance, Chromium: 15.5%, Silicon: 3.8%, Boron: 3.2%, Carbon: 0.07%, Iron: 3.5%

**TYPICAL APPLICATIONS:**
- Compressor Rods
- Chrome Plate Replacement Applications
- Brick Dies

**TeroJet 55-588**

TeroJet 55-588 is an agglomerated and sintered Chromium Carbide-Nickel Chromium Alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-588 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and hard particle erosion can also be expected.

**TECHNICAL DATA:**

Coating Properties:
- Hardness/R15N: 90-91 (HRC 59-67 converted)
- Coating Density: 14.0 g/cc

**Powder Properties:**
- Method of Manufacture: Agglomerated and Sintered
- Nominal Size Distribution: -45 + 15 microns
- Chemistry: Chromium carbide: 86%, Cobalt: 10%, Chromium: 4%

**TYPICAL APPLICATIONS:**
- Compressor Rods
- Oil Field Apparatus
- Pump Seals
- Ball Valves
- Capstans and Pulleys
- Exhaust Fan Blades
- Extrusion Dies
TeroJet 55-125 is a gas atomized Nickel Chromium alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-125 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution. The chemical composition is comparable to AWS A5.14 class ERNiCrMo-3. The HVOF coatings produced are suitable for a wide range of applications requiring resistance to alkaline, acidic and aqueous salt environments. Coatings of 55-125 are oxidation resistant up to a temperature of 1600°F (871°C).

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 78 (HRC 35 converted)
Nominal Size Distribution: -53 + 20 microns
Chemistry: Nickel: Balance, Chromium: 21.5%, Molybdenum: 9.0%, Nb + Ta: 3.6%

TYPICAL APPLICATIONS:
• Pollution Control Equipment
• Paper Mill Digesters
• Chemical Process Equipment

TeroJet 55-583 is an agglomerated and sintered Tungsten Carbide-Cobalt powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-583 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and erosion can also be expected.

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 90-92 (HRC 59-65 converted)
Nominal Size Distribution: -45 + 15 microns
Chemistry: Tungsten carbide: 83%, Cobalt: 17%

TYPICAL APPLICATIONS:
• Compressor Shafts
• Oil Field Apparatus
• Pump Seals

TeroJet 55-396 is a water atomized Nickel Chromium Boron Silicon alloy powder designed specifically for application via thermal spraying. The powder may be applied using HVOF, low velocity combustion or plasma NTA systems. Coatings of 55-396 may be used in the as-sprayed condition or subsequently fused with a heating torch. The fusing operation will densify the coating and will produce metal-lurgical bonding to the base metal. For applications where it is desirable to use the coating in the as-sprayed condition, then HVOF is the preferred method of application. The coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Eutectic 55-396 coatings offer excellent resistance to abrasion and hard particle erosion.

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 87-88 (HRC 54-56 converted)
Nominal Size Distribution: -63 + 20 microns
Chemistry: Nickel: Balance, Chromium: 15.5%, Silicon: 3.8%, Boron: 3.2%, Carbon: 0.07%, Iron: 3.5%

TYPICAL APPLICATIONS:
• Pump Shafts
• Compressor Rods
• Wear Rings
• Chrome Plate Replacement Applications
• Seals
• Brick Dies

TeroJet 55575 is an agglomerated and sintered Chromium Carbide-Nickel Chromium Alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-575 powder may also be applied using plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to fretting, abrasion, oxidation and high temperature corrosion can also be expected.

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 87-89 (HRC 53-57 converted)
Nominal Size Distribution: -45 + 11 microns
Chemistry: Chromium carbide: 75%, Nickel chromium: 25%

TYPICAL APPLICATIONS:
• Marine and Truck Diesel Valve Stems
• Chrome Plating Replacement Applications
• Ball Valves
• Hydraulic Cylinders
• Compressor Rods
• Sucker Rods

TeroJet 55-588 is an agglomerated and sintered Tungsten Carbide-Cobalt powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-588 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and hard particle erosion can also be expected.

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 90-93 (HRC 59-67 converted)
Nominal Size Distribution: -45 + 15 microns
Chemistry: Tungsten carbide: 86%, Cobalt: 10%, Chromium: 4%

TYPICAL APPLICATIONS:
• Compressor Shafts
• Oil Field Apparatus
• Pump Seals
• Splined and bearing mandrels

TeroJet 55-575 is a gas atomized Nickel Chromium alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-575 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution. The chemical composition is comparable to AWS A5.14 class ERNiCrMo-3. The HVOF coatings produced are suitable for a wide range of applications requiring resistance to alkaline, acidic and aqueous salt environments. Coatings of 55-125 are oxidation resistant up to a temperature of 1600°F (871°C).

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 81 g/cc
Nominal Size Distribution: 0.10% Carbon: 3.0%
Molybdenum: 9.0%

TYPICAL APPLICATIONS:
• Pollution Control Equipment
• Paper Mill Digesters
• Chemical Process Equipment

TeroJet 55-588 is an agglomerated and sintered Chromium Carbide-Nickel Chromium Alloy powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-588 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and erosion can also be expected.

TECHNICAL DATA:
Coating Properties:
Hardness/R15N: 78 g/cc
Nominal Size Distribution: 2.3% Boron: 3.2% Carbon: < 0.10%
Iron: 3.0%

TYPICAL APPLICATIONS:
• Pump Shafts
• Compressor Rods
• Wear Rings
• Chrome Plate Replacement Applications
• Seals
• Brick Dies
**TeroJet 55590**

TeroJet 55-590 is an agglomerated and sintered Tungsten Carbide-Nickel powder designed specifically for thermal spraying. Optimum coating results will be achieved using HVOF. However, 55-590 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. The use of a nickel matrix improves corrosion resistance as compared to WC-12Co HVOF coatings. In addition, the absence of cobalt renders coatings of 55-590 suitable for selective nuclear applications. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and hard particle erosion can also be expected.

**TECHNICAL DATA:**

- **Coating Properties:**
  - Hardness/R15N: 90-93 (HRC 59-67 converted)
  - Coating Density: 13.7 g/cc

- **Powder Properties:**
  - Method of Manufacture: Agglomerated and Sintered
  - Nominal Size Distribution: -45 + 15 microns
  - Chemistry: Tungsten carbide: 90%, Nickel: 10%

**TYPICAL APPLICATIONS:**

- Knife Blades
- Oil Field Apparatus
- Pump Seals
- Turbine Components
- Exhaust Fan Blades
- Extrusion Dies

**Eutectic HVOF Systems**

- TeroJet AC
- TeroJet AC III
- CJK5

**TeroJet 55606**

TeroJet 55-606 is a self-fluxing, Nickel based, highly alloyed powder. Coatings of 55-606 may be used in the as-sprayed condition or subsequently fused with a heating torch. The fusing operation will densify the coating and will produce metallurgical bonding to the base metal. For applications where it is desirable to use the coating in the as-sprayed condition HVOF is the preferred method of application. The coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals.

**TECHNICAL DATA:**

- **Coating Properties:**
  - Hardness/R15N: 85-88 (HRC 50-54 converted)
  - Coating Density: 7.86 g/cc (as sprayed) 8.10 g/cc (fused)

- **Powder Properties:**
  - Method of Manufacture: Water Atomized
  - Nominal Size Distribution: -53 + 15 microns
  - Chemistry: Nickel: balance, Chromium: 18%, Mo: 13%, Silicon: 4.5%, Boron: 2.8%, Cu: 2.5%

**TYPICAL APPLICATIONS:**

- Waste Incineration
- Pulp and Paper
- Sleeves
- Chemical Industries
- Mixer Blades
- Boiler Tubes
- Extruder Screws
- Shafts

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