Wear & Corrosion Resistant Coating Solutions for Injection Molding, Compound Mixing & Extrusion Machinery

Single Feedscrews  •  Twin Feedscrews  •  Mixing Rotors  •  Tip Assemblies

Innovation & Technology
HVOF Thermal Spray Technology
HVOF (High Velocity Oxygen Fuel) thermal spray technology allows us to apply coatings with extremely low porosity and high bond strength. A mixture of fuel and oxygen are combusted within a thermal spray gun producing temperatures near 6000ºF (3300ºC). Powder particles are accelerated into the high pressure gas stream created by the combustion and accelerated down the barrel of the spray gun at several times the speed of sound. At these speeds and temperature conditions, semi-molten particles adhere to the substrate with superior bond strength – exceeding 10,000 PSI. During coating applications, the coating builds to the specified thickness. This process creates the strongest bond and hardenability as compared to any other thermal spray process.

Coating Formulas for Ultimate Effectiveness
Our coating formulations have been designed for optimal effectiveness with our thermal spray application processes. Our winning CarbideX coating formulations combine tungsten carbide and carefully selected alloys or metals to provide the most economical wear solution available. By producing a coating material free from micro and sub-micron size material we ensure high bond strength with uniform adherence to the substrate. Our coating formulas for a growing range of products and applications that result in even greater toughness, durability and performance enhancements.

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CarbideX Formula
Alloy Composition
Hardness
C1000 Formulation of Tungsten Carbide, Cobalt Matrix 68-71 HRC
Key Characteristics:
Ultimate abrasion resistance with moderate corrosion resistance

C1000Ni Formulation of Tungsten Carbide, Nickel Matrix 68-71 HRC
Key Characteristics:
Ultimate abrasion resistance and moderate corrosion resistance

C1000-17 Formulation of Tungsten Carbide, Cobalt Matrix 66-68 HRC
Key Characteristics:
Ultimate abrasion resistance and moderate corrosion resistance with ductility

C1000Cr Formulation of Tungsten Carbide, Cobalt, Chrome Matrix 69-70 HRC
Key Characteristics:
Ultimate abrasion resistance and good to excellent corrosion resistance

C4000 Formulation of Carbon, Chromium, Nickel Matrix 55-60 HRC
Key Characteristics:
Moderate corrosion and abrasion resistance with high temperature performance

C5000 (CPR) Proprietary Formulation of Carbides within a Nickel Chrome Cobalt Matrix 58-62 HRC
Key Characteristics:
Moderate wear, extreme corrosion resistance, economical

C6000 Proprietary Formulation of Carbides within a Nickel Chrome Cobalt Matrix 58-62 HRC
Key Characteristics:
Moderate wear, moderate corrosion resistance, very economical

C9000 Formulation of Tungsten Carbide (micron & nanometer particles), Cobalt Matrix 68-71 HRC
Key Characteristics:
Excellent wear resistance and good corrosion resistance specially formulated for fine particle abrasion
Our Value Statements - What You Can Expect

- Quality
  - Continuous coil application
  - Injection
  - Extrusion
  - Feedscrews
  - Mixing
  - Plastic & Rubber Industry
  - Fans
  - Hydraulic
  - Conveyors
  - Pumps
  - Plastics, rubber, and metal applications
  - Hard chrome plating

- Service
  - Carbons, HCP
  - CPM-9V
  - Chrome Carbide Tool Steel
  - Hard Chrome Plating

- Advanced Coatings
  - Formulation - Nano Tungsten Carbide, Cobalt
  - Co/Cr/W

- Less Wear + More Production + Constant Quality + Less Down Time + Improved profit

Product Performance - Customer Results

<table>
<thead>
<tr>
<th>Coating</th>
<th>Volume Loss mm³</th>
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</thead>
<tbody>
<tr>
<td>Nitrided Steel</td>
<td>0.0249</td>
</tr>
<tr>
<td>CPM-9V</td>
<td>0.1995</td>
</tr>
<tr>
<td>C1000</td>
<td>0.4000</td>
</tr>
<tr>
<td>C9000</td>
<td>0.1990</td>
</tr>
<tr>
<td>C1000Ni</td>
<td>0.1624</td>
</tr>
<tr>
<td>C4000</td>
<td>0.1370</td>
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</table>

<table>
<thead>
<tr>
<th>Coating</th>
<th>Sliding Abrasion Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPM-9V</td>
<td>1.192</td>
</tr>
<tr>
<td>C8000</td>
<td>1.053</td>
</tr>
<tr>
<td>C9000</td>
<td>0.909</td>
</tr>
<tr>
<td>C1000</td>
<td>0.755</td>
</tr>
<tr>
<td>C1000Ni</td>
<td>0.601</td>
</tr>
</tbody>
</table>

Testing & Validation

ASTM G65 A – Sliding Abrasion Charts

- The G65 test simulates sliding abrasion conditions under moderate pressure, using dry sand slurry between a barrel and a flat steel. In most cases, you can expect an uncoated feedscrew to last less than five times longer than any other feedscrew on the market.

Less Wear + More Production + Constant Quality + Less Down Time + Improved profit

ASTM G77 – Adhesive Wear Test

- The G77 test simulates conditions of extreme wear in an injection molding machine. It simulates parts of materials and is generally for lower sliding wear applications, characteristics of this test reproduce "adhesive, extrusion wear" wear. Results are reported on an extreme slurry in steel, reliability for both the block and the ring. Materials of higher wear resistance have lower volume losses. (Friction conditions may also be established during this test.)

Text Conditions

- Tested at 3000 meter slide length. Fixed load and stepped load to CFD values. Minimum 100 cycle last used, 2000 revolutions, 30 rpm and 300 pounds of force.

Typical Components Protected to Maximize Value

- Plastic & Rubber Industry
  - Injection Molding Feedstocks
  - Extrusion Feedstocks
  - Continuous Mixing Rotors
  - Skim Return Valve Tip Assemblies
  - Urethane Homing
  - Coils

- Plastic & Rubber Industry
  - Conveyer Augers
  - Pump Stomachs
  - Hydraulic Shafts
  - Heat Exchanger Tubes
  - Tapes

- Other Miscellaneous
  - Coatings
  - Hard chrome plating
  - C9000 coated feedscrews after 15 months average 40% life on average and can be refurbished multiple times.

Experience & Expertise

- Our industry experience has afforded Extreme Coatings the opportunity to service over 5,000 units, and our technology and expertise have equipped us with ability to offer bottom-line solutions like no other company in the industry. Our propensity technologies afford a finished product that offers greater value than most all engineering in a variety of industries. Since 1996, we have been developing and deploying innovative, proprietary coating technologies and services to customers across the globe.

- Our focus always remains on our customers’ requirements, and is demonstrated by our dedication to developing effective, successful surface engineering solutions for specific industries and equipment.

Testing & Validation

- Less Wear + More Production + Constant Quality + Less Down Time + Improved profit

- We use state-of-the-art HVOF thermal spray technology to apply wear and corrosion resistant coatings to the working surface of any size feedscrew or mixing rotor. Extreme Coatings is a world leader for engineering in a variety of industries. Since 1996, we have been developing and deploying innovative, proprietary coating technologies and services to customers across the globe.

- Our team offers an effective, solution-oriented approach which makes use of advanced thermal spray technology and proprietary coating formulations. The exceptional quality of our products has enabled them to become trade standards in the plastics and rubber industry for feedscrews, mixing rotors, tip assemblies and other processing parts.

- Extreme Coatings encompasses complex industrial components, protecting them from wear and corrosion.

- By increasing wear resistance, service life is increased and performance is dramatically enhanced.

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Production Efficiency Advantage Factor

Production efficiency suffers dramatically as the clearance between feedscrew and barrel increases. While sometimes difficult to determine, an estimate of the cost of production loss such as scrap or downtime will highlight the return on investment in Extreme Coatings Product Solutions.

Quantifying the cost of inefficiency on a per machine, per month basis we define as the Performance Efficiency Advantage Factor or PEAF. This value is typically a reduction in screw or barrel expense. Carbine encapsulation can postpone feedscrew wear better than any other technology available today.

The Extreme Coatings industry specific approach makes our technology valuable through an understanding of the PEAF of a particular process.

In extrusion, an extruder processing a highly filled (>80%) material repairs or replaces a feedscrew when output rate becomes uneconomical at about .030” (.76mm) of wear. With a hardened chrome plated screw, this much wear occurred in 50-60 days. A tungsten carbide coated feedscrew was installed and processed for 210 days until it reached the same output rate reduction.

The carbide coated screw provided a three-fold increase in service life, however, this coated screw produced more than four times as much product as the previous HF/chrome feedscrew. A solid example of the value that minimizing wear can have on a close-tolerance system. This is a prime example of what we term PEAF!

Injection P/M Savings

At $80/hr for skilled labor, 8 hrs to P/M a machine and two P/M operations per year this yields $960 in annual maintenance cost per machine. With 30 machines this is over $28,800 per year in direct labor cost that has been reduced to $960 per 12 months (a $19,200 per 12 months savings). This savings does not include annual recovered machine downtime cost that equates to about 150,000 cycles of saleable product not produced.

Minimize Wear • Maximize Profit

Full Encapsulation

In applications that do not require wear or corrosion protection in the roots and flight sides, we apply our coating to the flight land /O.D. only. The process involves masking the roots and flight sides to prevent the coating from adhering to those areas.

Other Protection Methods

In the case of injection molding, when corrosion resistance in the root regions is not required, our coating is applied to the external thread, flight land and root, and the core of the feedscrew is left uncoated. This allows an accurate fit of the feedscrew when installed in the barrel.

Productivity Gain from Tungsten Carbide

<table>
<thead>
<tr>
<th>CarbideX</th>
<th>Powder/Hot</th>
<th>Nominal</th>
<th>Max.</th>
<th>Hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1000</td>
<td>.006” - .020”</td>
<td>0.13 – 0.51 mm</td>
<td>68-71 HRC</td>
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<td>Key Characteristic: Ultimate abrasion and moderate to good corrosion resistance</td>
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<td>C1000Cr</td>
<td>.006” - .020”</td>
<td>0.13 – 0.51 mm</td>
<td>69-70 HRC</td>
<td>Key Characteristic: Ultimate abrasion and good to excellent corrosion resistance</td>
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<tr>
<td>C4000</td>
<td>.006” - .020”</td>
<td>0.13 – 0.51 mm</td>
<td>55-60 HRC</td>
<td>Key Characteristic: Excellent corrosion and moderate abrasion resistance with high temperature performance</td>
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<td>C9000</td>
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<td>0.13 – 0.51 mm</td>
<td>68-71 HRC</td>
<td>Key Characteristic: Excellent wear resistance and good corrosion resistance especially formulated for fine particle abrasion</td>
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How We Do It - Our Process

Inspect new or reconditioned part to be processed

Confirm all processing details and coating formula

Strip & repair as necessary to OEM spec minus coating specification

Application of the coating via HVOF

Sprayed and sealed - application dependent

Finish polishing with diamond abrasive

Inspect and measure

Part complete with mirror finish

Key Points

Our process has key elements to obtain the desired specifications and high quality standards:

- 100% QA inspection of received parts to confirm the pre-coating dimensions are correct, tool marks removed, coated area matches drawing, materials of construction, hardness and confirming formula match.

The Problem - Why We Do What We Do

A tight tolerance between the feedscrew and barrel of an injection molding or extrusion machine is of vital importance to the production efficiency and the quality of the parts produced. An increase in the gap between the barrel and screws as little as .015" (.38mm) can cause excessive scrap and downtime. Additionally, changes (degradation) in the screw roots and flight sides dimension may cause similar problems.

Defining the Problems

Adjusting injection molding or extrusion machines to compensate for screw-barrel wear is common practice. These adjustments lead to excessive shear heat which can degrade sensitive polymers. Polymer residence time and time at temperature are important considerations when producing high tolerance parts. Maintaining a like-new tolerance between screw and barrel ensures that quality melt is produced at a consistent, predictable rate. An example below:

50mm GP Feedscrew Processing PS

- QC Measurement of parts before and after each step ensures quality throughout the process to meet the desired coating specification.
- Precise control and calculation of the powder formula deposition rate based on the part and solution to reach desired machine part specification (+ 0/-0.002" (.05mm).
- Methodical combination of rotation and traverse speed to control heat input and deposition rate of selected coating formulation to minimize internal stresses.
- Post coating heat straightening to meet industry/drawing requirements for TIR.
- Consistent monitoring of the polishing system to ensure product meets QC dimensional data desired to pass final inspection.

Expected Results of Our Solutions

- Tight tolerance of close tolerance system maintained
- Cost per pound of kilogram/hour decreases
- Screws last at least two times longer
- Two to four times more production
- Less preventive maintenance (DOWNTIME)
- Barrel life is improved
- Scrap rate decreases
- Output remains consistent
- Cycle times remain consistent
- Polymer integrity maintained

When the OEM tolerance between the screw and barrel is doubled, output decreases by 25% and melt temperature increases. To maintain output, screw speed is increased 50% resulting in higher melt temperature.

Results: Increased power consumption, potential for polymer degradation, decreased productivity and a reduction of the bottom line!
**Production Efficiency Advantage Factor**

Production efficiency suffers dramatically as the clearance between feedscrew and barrel increases. While sometimes difficult to determine, an estimate of the cost of production loss such as scrap or downtime will highlight the return on an investment in Extreme Coatings Product Solutions.

Quantifying the cost of inefficiency on a per machine, per month basis we define as the Production Efficiency Advantage Factor or PEAF. This value is typically a reduction in screw or barrel expense. Carbide encapsulation can postpone feedscrew wear better than any other technology available today.

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**PEAF Case Studies**

**Injection Molding**

A precision injection molder with 100 injection presses, 30 of which run glass filled Nylon, PET and LCP materials, experiences process inconsistency with a small amount of wear. The small screws (25mm) make small precision parts on a fast cycle. Screws are replaced at .008" - .010" (.20 - .25mm) wear as component part quality and cycle time are impacted. CPM-9V tool steel feedscrews provide 1.5 million cycles while the carbide coated screws provide four (4) million cycles.

Annual Preventive Maintenance (P/M) includes feedscrew measurements every six months. Improved reliability and predictable wear from carbide coating has reduced semi-annual P/M’s to every 18 months or two (2) million cycles.

**Extrusion**

An extruder processing a highly filled (>80%) material repairs or replaces a feedscrew when output rate becomes uneconomical at about .030" (.76mm) of wear. With a hardened and chrome plated screw, this much wear occurred in 50-60 days. A tungsten carbide coated feedscrew was installed and processed for 210 days until it reached the same output rate reduction.

The carbide coated screw provided a three-fold increase in service life, however, this coated screw produced more than four times as much product as the previous HiChrome feedscrew. A solid example of the value that minimizing wear can have on a close-tolerance system. This is a prime example of what we term PEAF.

**Productivity Gain from Tungsten Carbide**

At $80/hr for skilled labor, 8 hrs to P/M a machine and two P/M operations per year this yields $800 in annual maintenance cost per machine. With 30 machines this is over $24,000 per year in direct labor cost that has been reduced to $900 per 12 months (a $19,200 per 12 months savings). This savings does not include annual recovered machine downtime cost that equates to about 150,000 cycles of saleable product not produced.

**CarbideX Formula**

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*Hardness converted from Vickers/Knoop

**Other Protection Methods**

In applications that do not require wear or corrosion protection in the roots and flight sides, we apply our coating to the flight land (O.D. only). The process involves masking the roots and flight sides to prevent the coating from adhering to those areas.

**Defining the Value**

**The Core of Our Solutions – What We Do**

Extreme Coatings™ utilizes emerging thermal spray technologies to apply extremely wear and corrosion resistant protective coatings to any size injection molding or extrusion feedscrew. The technology produces crack free coatings with hardness values ranging from 30-70 Rc and thickness from .005"-.040" (.13 – 1.01mm).

Our various and proprietary compositions of hard carbides, ceramics, and alloys are incorporated to achieve abrasion and corrosion resistant characteristics unmatched by conventional hardfacing alloys. This process completely eliminates the necessity for chrome plating, flame hardening, or nitriding, as the entire screw surface is encapsulated, including the root, flight sides and flight lands.

**Full Encapsulation**

Our formulas

A: Our formulas

B: HVOF thermal spray

C: Extreme layer of protection

Minimize Wear • Maximize Profit
Our Value Statements - What You Can Expect

Exclusive to a plastic injection molding machine is the Extremes CarbideX – CPR coating or chromium carbide coating will reduce your average interchangeably, normally head-to-head costs by up to 100% regardless of the type of polymer being processed.

The high concentration of extremely hard tungsten or chromium carbide in our coatings provide protection against adhesive and abrasive wear resistance characteristics contributed by contact burning, blockage or tool failure. In most cases, you can expect an encapsulated feedscrew to last from two to four times longer than any other coating on the market.

Less Wear = More Production + Constant Quality + Less Down Time + Improved profits

Testing & Validation

ASTM G65 A – Sliding Abrasion Charts

The ASTM G65 test determines sliding abrasion condition under moderate pressure, using dry sand mixed with a carbon fiber and a block coupon of the material being evaluated. The test allows comparison of wear-resistant materials by their volume loss in cubic millimeters, with materials of higher wear resistance showing lower volume losses.

Product Performance - Customer Results

A Global Leader in Thermal Spray Coating Solutions

Extreme Coatings is a global leader in providing wear resistant coating solutions which are used for surface engineering in a variety of industries. Since 1996, we have been developing and deploying innovative, successful solutions, innovative and comprehensive services to countries across the globe.

Our industry experience has afforded Extreme Coatings the opportunity to service over 25,000 parts, and our extensive Tungsten Carbide Coatings on injection molding feedscrews, extrusion feedscrews and compounding mixing value/Tip Assemblies. Since 1996, we have been developing and deploying innovative, successful solutions, innovative and comprehensive services to countries across the globe.

Successful Solutions, Impressive Results

Extreme Coatings encompasses complex industrial components, protecting them from wear and corrosion. By increasing wear resistance, service life is increased and performance is dramatically enhanced.

We use state-of-the-art PMT thermal spray technology to apply wear and corrosion resistant coating formulas to the existing surface of any state feedscrew or mixing rotor. Extreme Coatings is a leader for Tungsten Carbide Coating on injection molding feedscrews, extrusion coatings and compounding mixing rotors in the Plastic and Rubber Industry. Our focus always remains on our customers’ requirements, and is demonstrated by our dedication to continually developing effective, successful surface engineering solutions for specific industries and equipment.

Experience & Expertise

Our industry experience has afforded Extreme Coatings the opportunity to service over 25,000 parts, and our technological expertise has equipped us with the ability to offer broad-line solutions to our customers.

This comprehensive advantage significantly improves our customers’ ability to develop solutions for immediate and future needs. We view each job as unique, and we take pride in offering a personalized approach which makes use of advanced thermal spray technology and proprietary coating formulations. The exceptional quality of our products has enabled them to become trade standards in the plastic and rubber industry for head-to-head, mixing rotors, tip assemblies and other processing parts.

Typical Components Protected to Maximize Value

Plastic & Rubber Industry

• Injection Molding Feedscrews
• Extrusion Feedscrews
• Continuous Mixing Rotors
• Non-Return Value Tip Assemblies
• Blown Air Molds
• Dies

Other Miscellaneous Items

• Conveyer Augers
• Pump Stems
• Hydraulic Shafts
• Heat Exchanger Tubes
• Fans
Our Value Statements - What You Can Expect

Extreme Coatings is a leader in advanced, hardfacing solutions for feedscrews and other hard-to-machine or critical parts. Our proprietary coatings yield superior results through extended service life and reduced wear, enabling a significant reduction in maintenance and repair costs. Our approach to hardfacing is personalized, offering a complete solution for each customer's unique needs.

Our experienced and knowledgeable team focuses on creating customized solutions that address each customer's specific requirements. We are dedicated to ensuring that our solutions meet and exceed expectations, providing a competitive advantage in the industry.

Our technology-driven approach includes the use of advanced thermal spray systems and proprietary coating formulations. Our comprehensive service model is designed to ensure the highest quality and reliability in every application.

Successful Solutions, Impressive Results

Extreme Coatings encapsulates complex industrial components, protecting them from wear and corrosion. By increasing wear resistance, service life is increased and productivity is dramatically enhanced.

We offer our customers peace of mind with a competitive advantage in the market through our industry-leading service and product capabilities.

Our focus is on developing effective, successful surface engineering solutions for specific industries. Our team offers an effective, solution-oriented approach using advanced thermal spray technology and proprietary coating formulations.

This competitive advantage significantly lowers our customers' operating costs through extended service life and a reduction in machine downtime. We view each job as unique, and we take pride in offering a customized solution that meets specific customer needs.

Our industry experience has afforded Extreme Coatings the opportunity to service over 25,000 parts, and our team has been developing and deploying innovative, superior coating products and services to companies across the globe.

Our mission is to provide exceptional service and deliver unparalleled results. By partnering with Extreme Coatings, you can expect a personalized approach that addresses your unique challenges and delivers cost-effective solutions.

Experience & Expertise

Our industry experience has allowed Extreme Coatings the opportunity to serve customers in a variety of industries. Our expertise and commitment to excellence are backed by years of experience in thermal spray coating technology.

We focus on developing effective, successful surface engineering solutions for specific industries. Our team offers an effective, solution-oriented approach which makes use of advanced thermal spray technology.

We believe in leveraging our experience to provide unmatched results. Whether it’s a specific need or a broad solution, our team is equipped to deliver the best possible results.

Typical Components Protected to Maximize Value

- Injection Molding Feedscrews
- Extrusion Feedscrews
- Continuous Mixing Rotor
- Ross Return Valve Tip Assemblies
- Ultrasonic Horns
- Case

Other Miscellaneous Items

- Conventional Augers
- Pump Bimets
- Hydraulic Shafts
- Heat Exchanger Tubes
- Pumps

Our proprietary technologies yield a finished product that offers greater value than most all competitive offerings. This competitive advantage significantly lowers our customers' operating costs through extended service life and a reduction in machine downtime.

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Wear & Corrosion Resistant Coating Solutions for Injection Molding, Compound Mixing & Extrusion Machinery

Single Feedscrews  •  Twin Feedscrews  •  Mixing Rotors  •  Tip Assemblies

Innovation & Technology

HVOF Thermal Spray Technology
HVOF (High Velocity Oxygen Fuel) thermal spray technology allows us to apply coatings with extremely low porosity and high bond strength. A mixture of fuel and oxygen are combusted within a thermal spray gun producing temperatures near 6000ºF (3300ºC).

Powder particles are accelerated through the high pressure gas stream created by the combustion and accelerate down the barrel of the spray gun at several times the speed of sound. At these speeds and temperature conditions, some metal particles adhere to the substrate with superior bond strength — exceeding 10,000 PSI. During coating applications, the coating bonds to the substrate through surface reaction, which creates the coating build in the specified thickness. This process creates the strongest bond and highest hardness value as compared to any other thermal spray process.

Coating Formulas for Ultimate Effectiveness

Our coating formulations have been designed for optimal effectiveness with our thermal spray application processes. Our winning CarbideX coating formulations combine tungsten carbide and carefully selected alloys or metals to provide the most economical wear solution available. By producing a coating that adheres to the substrate with superior bond strength and adheres to the metal substrate, the coating builds in the specified thickness. This process creates the strongest bond and highest hardness value as compared to any other thermal spray process.

Research & Development

At Extreme Coatings, our mission is to continually research and develop new technologies that benefit our clients in every industry we service. Our goal is to remove the expenses of the tools of manufacturing and enhance the performance surface solutions. Our proprietary coating formulas protect and extend the service life of your most valuable assets, saving you money and improving your bottom line.

Other Coating Solutions

Carboride  •  Niboride  •  Flame Spray
Innovation & Technology

HVOF Thermal Spray Technology

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Powder particles are accelerated by the high pressure gas stream created by the combustion and accelerated down the barrel of the spray gun at several times the speed of sound. At these speeds and temperature conditions, some metallic particles adhere to the substrate with superior bond strength — scaling up to 10,000 PSI. During coating applications, the coating is built up in the specified thickness. This process creates the strongest bond with highest hardness value as compared to any other thermal spray process.

Coating Formulas for Ultimate Effectiveness

Our coating formulations have been designed for optimal effectiveness with our thermal spray application processes. Our winning CarbideX coating formulations combine carbides and carefully selected alloys to create the most economical wear solution available. By producing a coating material from a single or multi-locular core material we produce high bond strength with uniform conformance to the coating. The variety of coating formulations for a growing range of products and applications that result in even greater toughness, reliability and performance enhancements.

CarbideX Advantage

CarbideX Formula

Alloy Composition

Hardness

C1000
Formulation of Tungsten Carbide, Cobalt Matrix
68-71 HRC

Key Characteristics:
Ultimate abrasion resistance with moderate corrosion resistance

C1000Ni
Formulation of Tungsten Carbide, Nickel Matrix
68-71 HRC

Key Characteristics:
Ultimate abrasion and moderate to good corrosion resistance

C1000-17
Formulation of Tungsten Carbide, Cobalt Matrix
66-68 HRC

Key Characteristics:
Ultimate abrasion and moderate corrosion resistance with ductility

C1000Cr
Formulation of Tungsten Carbide, Cobalt, Chrome Matrix
69-70 HRC

Key Characteristics:
Ultimate abrasion and good to excellent corrosion resistance

C4000
Formulation of Carbon, Chromium, Nickel Matrix
55-60 HRC

Key Characteristics:
Moderate corrosion and abrasion resistance with high temperature performance

C5000 (CPR)
Proprietary Formulation of Carbides within a Nickel Chrome Cobalt Matrix
58-62 HRC

Key Characteristics:
Moderate wear, extreme corrosion, economical

C6000
Proprietary Formulation of Carbides within a Nickel Chrome Cobalt Matrix
58-62 HRC

Key Characteristics:
Moderate wear, moderate corrosion, very economical

C9000
Formulation of Tungsten Carbide (micron & nanometer particles), Cobalt Matrix
68-71 HRC

Key Characteristics:
Excellent wear resistance and good corrosion resistance specially formulated for fine particle abrasion

Other Coating Solutions

Carboride • Niboride • Flame Spray

Research & Development

At Extreme Coatings, our mission is to continually research and develop new technologies that benefit the clients in every industry we service. Our goal is to create the most economical and the lowest cost engineered surface solutions. Our proprietary coating formulas protect and extend the service life of your most valuable assets, saving you money and improving your bottom line.

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