Oerlikon Metco Coating Services GmbH
Coating Solutions That Help You Innovate and Be Sustainable
Delivering resource-friendly, high-end solutions
Coating solutions by Oerlikon Metco Coating Services GmbH provide the highest possible levels of wear protection to precision components across industry applications. Using a wide array of coating and engineering processes, we create surfaces tailored to your needs.

Our surface solutions excel when classic tool making processes and materials reach their limits. Advanced thermal spraying technologies ensure every project is implemented in the most sustainable and resource-friendly way.

Our portfolio comprises the engineering and/or coating of single components and replacement parts, as well as large volume production. Thanks to the flexibility of thermal spraying, we also offer many innovative and sustainable options to repair existing components damaged by wear.

Who We Are
Part of a leading global technology group
Oerlikon Metco Coating Services GmbH has been based in the Rhineland since 1998. Available almost around the clock, some 80 coating and business experts at our Langenfeld plant work to deliver outstanding surface engineering solutions. Oerlikon Metco Coating Services GmbH is part of the Surface Solutions Segment of the Oerlikon Group — a leading technology and engineering firm headquartered in Pfäffikon, Switzerland. Oerlikon employs approximately 10,500 people at 175 locations in 37 countries worldwide. The Oerlikon Metco business unit is considered a pioneer of thermal spray technology.

With a sustainable future in mind
We feel responsible to develop production technologies and business processes that protect the natural environment. Any solution we develop today must improve our customers’ processes and sustainability for tomorrow.

High-Tech Made In Germany
Building on industry-leading systems
Oerlikon Metco Coating Services GmbH is committed to outstanding quality along with best-in-class customer service.

Finding end-to-end solutions for any given customer application is our declared goal, and using natural resources in the most responsible way to achieve it is part of the holistic quality concept that defines every one of our bespoke coating solutions. We express this by complying with the full range of industry-leading systems for quality, environmental, OHS and energy management. In fact, having our exacting corporate values and standards certified to DIN EN ISO 9001, DIN EN ISO 14001, DIN EN ISO 50001 and OHSAS 18001 comes completely natural to us.
Thermal Spraying

Thermal spraying has become a trusted, proven process of surface engineering in almost every branch of industry. It comprises a wide variety of coating methods with a common denominator: thermal energy softens or melts a coating material (or ‘feedstock’) which is then highly accelerated with the help of combustion or atomizing gases and propelled onto the surface to create a coating. As the coating material cools, it hardens and forms a strong bond with the surface of the workpiece.

Common Variations of Thermal Spraying

The various thermal spraying processes are identified by the way the thermal energy is generated to apply the coating material. For more information on thermal spray technology visit our web site at: www.oerlikon.com/metco
The Scope of Thermal Spray Applications

Thermal spraying works with a vast variety of coating materials and can be applied to almost any substrate surface. Predominant coatings applied using thermal spray include metals, carbides, metal/carbide composites as well as oxide ceramics. While ceramic feedstock materials usually come as a powder, feedstock materials in wire form are often used when creating hard metal coatings.

**Mechanical wear protection**

Metallic coatings incorporating very hard particles are the first choice when it comes to achieving superior wear protection. Their metal matrix is typically based on nickel, cobalt, chromium, iron or a combination, while tungsten carbide, chromium carbide or titanium carbide act as the hard phase that improve hardness and toughness. The elements and compounds must be carefully chosen to suit the application — the service environment such as the operating temperature plays a decisive role.

**Corrosion protection**

Thermal sprayed corrosion protection is implemented whenever conventional paint or other surface barriers won’t do the job. Applying a durable zinc or aluminum coating via thermal spraying is a cost efficient way to coat even large components against aggressive exposure while also being more resource and environment friendly. Very often, a combination of corrosion protection and wear protection technology is used to maximize the benefits offered by both coating systems.

**Functional surfaces and isolation**

Creating functional surfaces that exhibit specific properties is another key domain of thermal spraying technology. Common applications include ceramic coatings that achieve thermal or electrical insulation of a component. Many other physical properties — such as hydrophobic/hydrophilic behavior or increased surface friction — can be realized by combining the appropriate spraying material and a corresponding finishing treatment.

Industry Sectors

Oerlikon Metco Coating Services GmbH is recognized as a respected partner in the field of thermal spraying. Our products can be found in the classic areas such as:

- Mechanical engineering
- Power generation
- Automotive and transportation
- Agriculture
- Textile production machinery
- Printing
- Food production equipment
- Steel production

Our coating solutions excel where classic tool-making processes and materials reach their limits. Drawing on an unrivaled portfolio of coating techniques and materials, we are able to handle virtually any coating project our customers require.
Research and Development

Our experienced R&D team is ready to offer expert advice, helping you tackle engineering challenges and innovate in a sustainable way.

Our application-focused development strategy means we can rethink a project from scratch — starting with a close examination of existing material concepts and working with you to create a tailor-made solution.

The direct linking of research and development and our close collaboration with universities and research centers give our products the innovative edge that you would expect from us.

Machining of Surfaces — “Full Service”

Before coating
Preparing a component’s surface for coating requires as much attention as the coating process itself. It entails various metal cutting techniques such as turning and milling, as well as the thorough cleaning of the component and activating the surface to be coated with grit blasting.

Between coatings
Sometimes a thick metallic coating is thermal sprayed onto the component to restore it to its original dimensions. Such coatings require interim machining as a preparation for applying the final functional coating.

After coating
Each surface coating process is completed in a series of carefully coordinated finishing steps. Depending on the application, these can include cylindrical and flat grinding, lapping, polishing, brushing or superfinishing. These steps ensure the component’s perfect functionality for its particular purpose.
Your Benefits

- Significantly extend the life cycle of your components
- Greatly improve the quality and cost-efficiency of your production process
- Maintain your competitive edge by leveraging our forward-looking solutions
- Protect the planet by using resource and environment friendly coating technologies

Sample Products

- Carbide-coated roller
- Gasket with ceramic coating to protect the seal
- Sleeve with various ceramic coatings for the textile industry
- Bushing with high-friction metallic coating
- Carbide-coated plunger for the food-processing industry
- Slide rings with ceramic coatings to protect the seats
Perfect solutions through optimum materials and innovative technologies

Oerlikon Metco is a global leader in surface engineering solutions and services offering:

- A broad range of thermal spray, laser cladding and other advanced surface technology equipment
- Integrated systems and materials
- Specialized coating and surface enhancement services
- Manufactured components for the turbine, automotive and other industries
- Customer support services

Oerlikon Metco provides a comprehensive manufacturing, distribution and service network, catering to aviation, power generation, automotive and other strategic growth industries.

To take control of your surface engineering challenges, contact your Oerlikon Metco sales office, visit our web site at www.oerlikon.com/metco or e-mail us at info.metco@oerlikon.com.

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About Oerlikon Metco
Oerlikon Metco enhances surfaces that bring benefits to customers through a uniquely broad range of surface technologies, equipment, materials, services, specialized machining services and components. The surface technologies such as Thermal Spray and Laser Cladding improve the performance and increase efficiency and reliability. Oerlikon Metco serves industries such as aviation, power generation, automotive, oil & gas, industrial and other specialized markets and operates a dynamically growing network of more than 50 sites in EMEA, Americas and Asia Pacific. Oerlikon Metco, together with Oerlikon Balzers and Oerlikon AM, belongs to the Surface Solutions Segment of the Switzerland-based Oerlikon Group.

Information is subject to change without prior notice.