INDUSTRIAL METAL COATINGS

PROTECTIVE COATING SYSTEMS
Helios protective coatings meet customers' demand for utmost protection and durability.

Passion for smart coatings

Member of a global coatings group

The history of Helios Group dates back to 1924 and today operates among the top ten coating companies in the European market. With 14 production sites, 145,000 m² production area and 30 own local sales forces, the Helios Group supplies over 15,000 customers in more than 60 countries worldwide. Since 2017, Helios has been member of the KANSAI PAINT Group, one of the world's leading paint and coatings producers.

Respecting the environment

The group strictly follows European and global legislation requiring the introduction of cleaner and environmentally friendly technologies. Whilst developing new advanced products, the group is committed to principles of sustainable development, such as minimizing energy consumption and the impact on the environment.

Continuous development

R&D at the Helios Group is very strong and organized in one of the most modern R&D facilities on the international market. A direct connection and cooperation between R&D, sales and strong technical service teams caters to various demands of our customers. Such customized solutions may involve all the technologies available within Helios Group and integration of various production processes just for one single end product.
RELIABLE COATING SOLUTIONS ACCORDING TO ISO 12944

Ensuring durable and long-lasting protective and decorative features is a guiding principle in serving customers and enabling the achievement of superb results in manufacturing processes. Our high-quality coating solutions are specially developed for new construction and maintenance of steel, galvanized steel and steel with thermal sprayed metallic coating in various corrosion stress environments. All our coatings are dependable, optimal, and completely tailored to our users’ specific needs. Thus, Helios protective systems contribute to safety in many different sectors, such as infrastructure, energy, oil, chemical and gas industry.

Because of its complexity, anticorrosion protection of steel constructions is standardized and defined by ISO 12944 which is a base also for the Helios protective coating system portfolio. ISO 12944 is a global anticorrosion protection standard which contains guidelines for coating producers, investors, constructors and inspectors. This standard defines various corrosion classes on the basis of thickness loss of unprotected steel in various atmospheric and immersion influences (see table on pages 6-7).

STRONG TECHNICAL SUPPORT

Our customers and partners benefit the most by Helios’s expert team of certified professionals and FROSIO certified coatings advisors, who consult and provide technical support in meeting specific requirements. We are committed to helping our customers find the optimal solution regarding the technical specifications and requirements of a particular production process. The desired results and high quality are guaranteed.

EXCELLENT REFERENCES

Our industry-leading coating solutions are recognized internationally for ensuring high-quality protection and decoration of infrastructure projects, bridges, power plants, transmission towers, tanks steelworks and pipelines. Together with our valued reputable customers, we have achieved great results in the European and CIS region regarding heavy duty anticorrosion protection. By focussing on innovation, we have developed industry-leading coating solutions to protect objects which shall last for many years.
### Atmospheric Corrosivity Categories

<table>
<thead>
<tr>
<th>CATEGORY OF CORROSION</th>
<th>EXAMPLES OF TYPICAL ENVIRONMENT Inside</th>
<th>EXAMPLES OF TYPICAL ENVIRONMENT Outside</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Very low corrosivity</td>
<td>Heated buildings with clean atmospheres, e.g. offices, shops, schools, hotels</td>
<td>Unheated buildings where condensation is possible (sports halls, depots)</td>
</tr>
<tr>
<td>C2 Low corrosivity</td>
<td>Atmosphere with low pollution, mostly rural areas</td>
<td></td>
</tr>
<tr>
<td>C3 Medium corrosivity</td>
<td>City and industrial atmosphere – medium concentration of sulfur dioxide, coastal area with low salinity areas</td>
<td>Production facilities with high humidity and some air pollution (e.g. food production, laundries, breweries, dairies)</td>
</tr>
<tr>
<td>C4 High corrosivity</td>
<td>Industrial areas and coastal areas with medium salinity</td>
<td>Chemical plants, swimming pools, coastal ship and boatyards</td>
</tr>
<tr>
<td>C5 Very high corrosivity</td>
<td>Industrial areas with high humidity and aggressive atmosphere as well as coastal areas with high salinity</td>
<td>Buildings or areas with almost permanent condensation and with high pollution</td>
</tr>
<tr>
<td>C5-X Extreme corrosivity</td>
<td>Offshore areas with high salinity and industrial areas with extreme humidity and aggressive atmosphere and subtropical and tropical atmospheres</td>
<td>Industrial areas with extreme humidity and aggressive atmosphere</td>
</tr>
</tbody>
</table>

### Corrosivity Categories of Water and Soil

<table>
<thead>
<tr>
<th>CATEGORY OF CORROSION</th>
<th>EXAMPLES OF TYPICAL ENVIRONMENT Inside</th>
</tr>
</thead>
<tbody>
<tr>
<td>Im1 Fresh water</td>
<td>River installations, hydro-electric power plants</td>
</tr>
<tr>
<td>Im2 Sea or brackish water</td>
<td>Immersed structures without cathodic protection (e.g. harbour areas)</td>
</tr>
<tr>
<td>Im3 Soil</td>
<td>Buried tanks, steel piles, steel pipes</td>
</tr>
<tr>
<td>Im4 Sea or brackish water</td>
<td>Immersed structures with cathodic protection (e.g. offshore structures)</td>
</tr>
</tbody>
</table>
Without stable infrastructure systems, today’s mobility would be impossible. Thus, a durable protection and conservation of steel constructions is very important and strongly connected to public safety. Depending on their location, infrastructure systems are subject to a certain degree of atmospheric and chemical stress, e.g. from humidity, exhaust gases, or road salt. These factors make corrosion protection challenging – a reliable and durable coating system is required.

Helios is your specialist in the field of corrosion protection for bridges, steel constructions and sport stadiums and other infrastructure objects. We offer excellent coating solutions in accordance with ISO 12944 – also for difficult areas where good surface preparation is impossible.

Helios offers time and cost-efficient coating systems without any compromise in quality – the ultimate protection for bridges, steel constructions, and sport stadiums.

Reference projects:
- Bosnia and Herzegovina: BH Steel, NT FORGING - Novi Travnik
- Croatia: Žatec Bridge, Krka Bridge, Saplava Bridge, Vladoj GACKA
- Slovenia: Ponovno Basketball Hall Stožice, Bridge Črnuče, Maribor Bridge over Drava river
- France: Shopping Center Nantes
- UK: Olympic Swimming Pool London

Product assortment highlights:
- High solid systems with very low VOC content
- Fast curing epoxy primers
- Monolayers for good anticorrosion and UV-protection
- Epoxy mastic systems with excellent wetting properties and good penetration properties
- Time and cost effective product solutions with no compromise in protection
Energy infrastructure like high-voltage lines, energy transmission towers or hydro and fossil fuel power plants safeguard the independence of private households, businesses and the industry. Thus, equipment of the power generation industries needs to be safe and durable for many years. Demands of energy suppliers are manifold. In any case, long-term anticorrosion protection systems without constant renewing and additional maintenance costs, are desired. Helios offers a complete range of durable and reliable coating systems that meet the highest requirements:

- Advanced corrosion protection systems for power transmission
- High temperature resistant systems
- Heavy duty systems for hydro power plants

**POWER TRANSMISSION SYSTEM HIGHLIGHTS**

- High quality MC polyurethane system
- Excellent wetting and penetration properties
- Excellent adhesion to various substrates
- Ease of application of one-component materials – durability and mechanical properties of two component materials

**HIGH TEMPERATURE RESISTANT SYSTEM HIGHLIGHTS**

- Designed to withstand temperatures from 150 to 600°C
- Temperature resistance combined with anticorrosion protection
- Choice of organic or inorganic materials, depending on temperature and anticorrosion demands

**Reference Projects**

- Bosnia and Herzegovina: Landline TS 220/110kV Jajce 2
- Croatia: Shipyard NCP Šibenik
- Hungary: Landline 400 kV MVM Rt
- Montenegro: Electrical transmission system
- Romania: OMV Petrom oil refinery
- Serbia: Elektromreža Srbije
- Slovenia: TES 6, Slovanj
OIL, GAS AND CHEMICAL INDUSTRY

HELIOS COATING SYSTEMS ARE DESIGNED TO PROTECT THE MOST SENSITIVE INDUSTRIAL ENVIRONMENTS.

OIL, GAS AND CHEMICAL INDUSTRY

For chemical plants, refineries and storage terminals corrosion protection is of utmost importance. The selection of the appropriate coating system is a complex task. For tanks, towers, furnaces, stacks, piping, machinery or other steel structures, the installation is expected to endure several types of aggressive influences:

- Aggressive industrial atmosphere
- Contact with water vapor
- Contact with aerosols of various aggressive chemical media
- Contact with crude oil and its derivatives
- Influence of high temperatures and pressure
- Buried structures

Helios’s protective systems are the result of long-term R&D work and experience in the field and fulfill the highest corrosion protection requirements.

PRODUCT ASSORTMENT HIGHLIGHTS

- Resistance to penetration of corrosive chemicals
- Outstanding adhesion
- Resistance to chemical, mechanical as well as thermal influences

Reference projects

- Croatia: INA tanks in Rijeka, Belja - Beli Manastir
- Hungary: Pannonstahl tanks and metal structures
- Macedonia: Millennium Cross
- Russia: URALMASH drilling equipment
- Serbia: Republic Directorate for Commodity Reserves Smederevo, “KEK” Pristina
- Slovenia: Thermal power plants HE Marčiče, TE Brestanica internal protection tank
Along with our high-quality protective coating systems, we provide a full-service support for our customers. You can rely on our international experts team. These experienced professionals are strongly dedicated to the technical issues and profit from a global network within the European Helios Group.

Due to our team and our local production and service sites, we are closely connected with our customers. Our experts visit your location to make status-quo analysis. What follows is an optimized proposal from Helios. We create the technologies necessary for the required life expectancy of your building or project. Then we take measurements and provide monitoring in the application phase.

Furthermore, our team is providing you with:
- professional advice and technical assistance
- high quality of finished products
- dynamic of shipment in accordance with your needs and local requirements
- tailor-made solutions – the possibility to create different coating shades and qualities, upon request
- help in creating and control of the project documentation in accordance with the EN ISO 12944

Find the next Helios contact in your vicinity under www.helios-metalcoatings.com and contact us. Our team is looking forward to answering your questions.