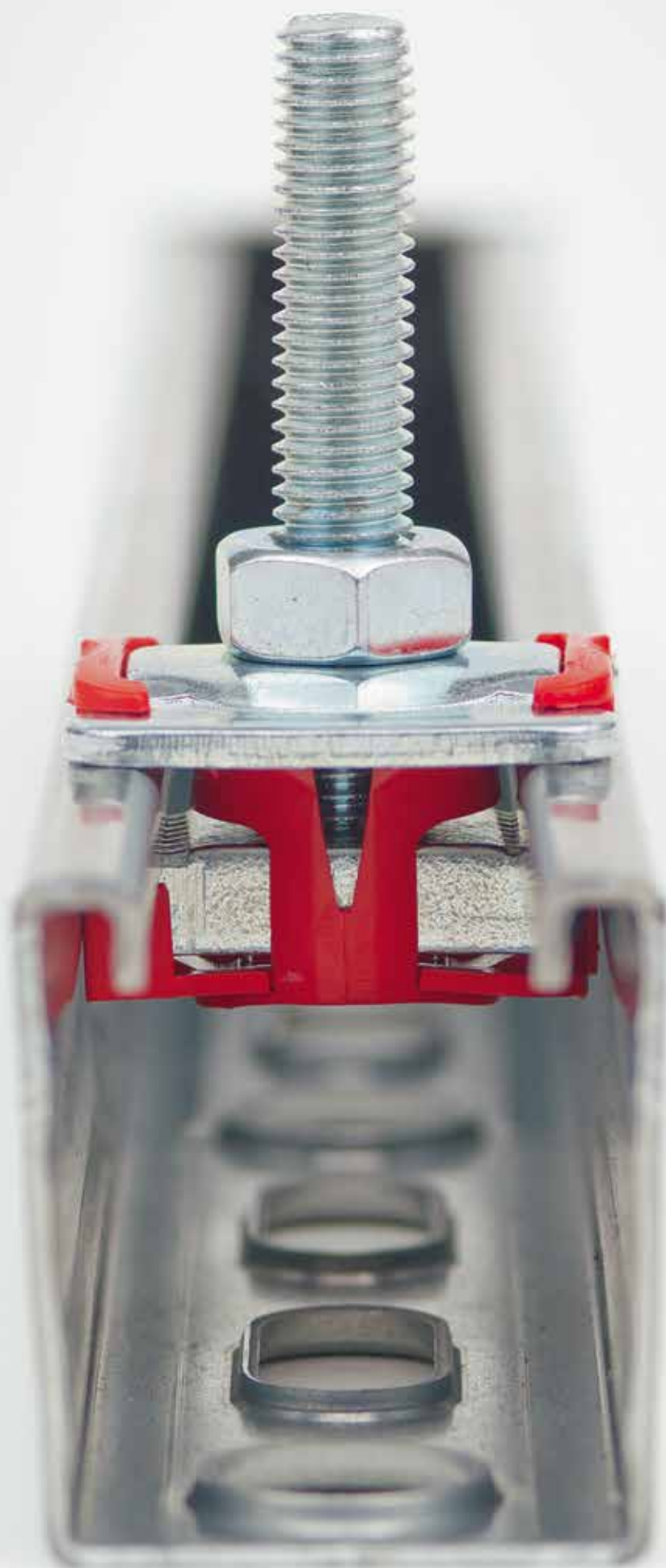




**VARIFIX<sup>®</sup>**  
**MARITIME**

**#READY  
FOR WORK**

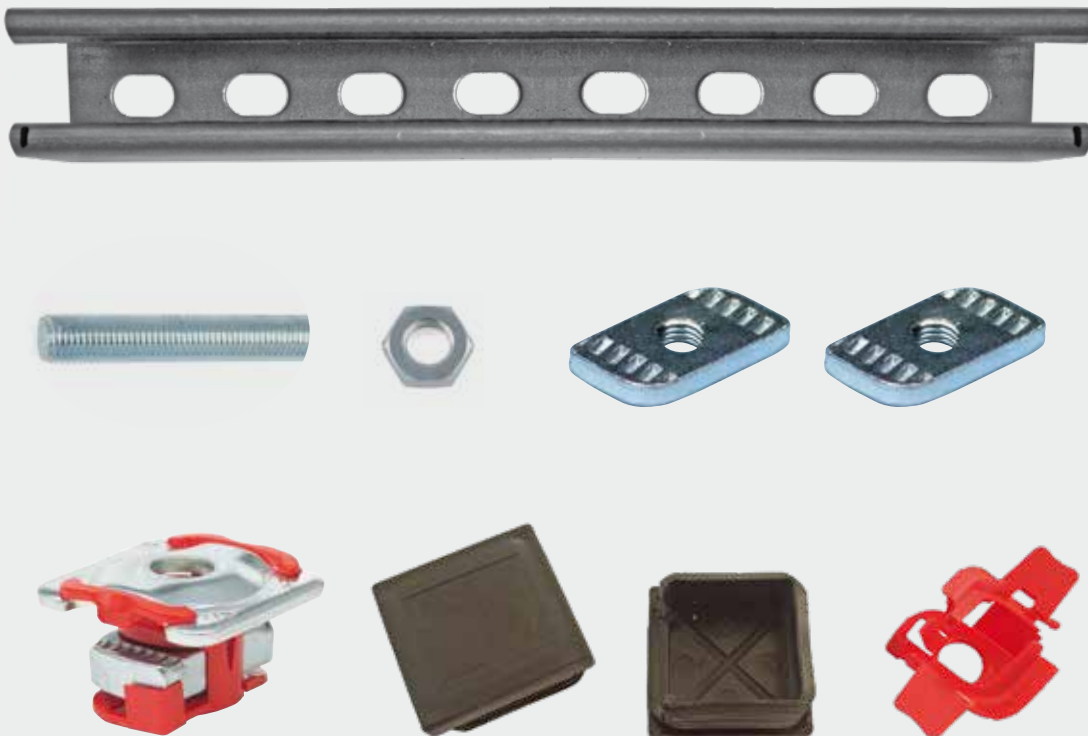


# 82%

## RECYCLABLE AND SUSTAINABLE.

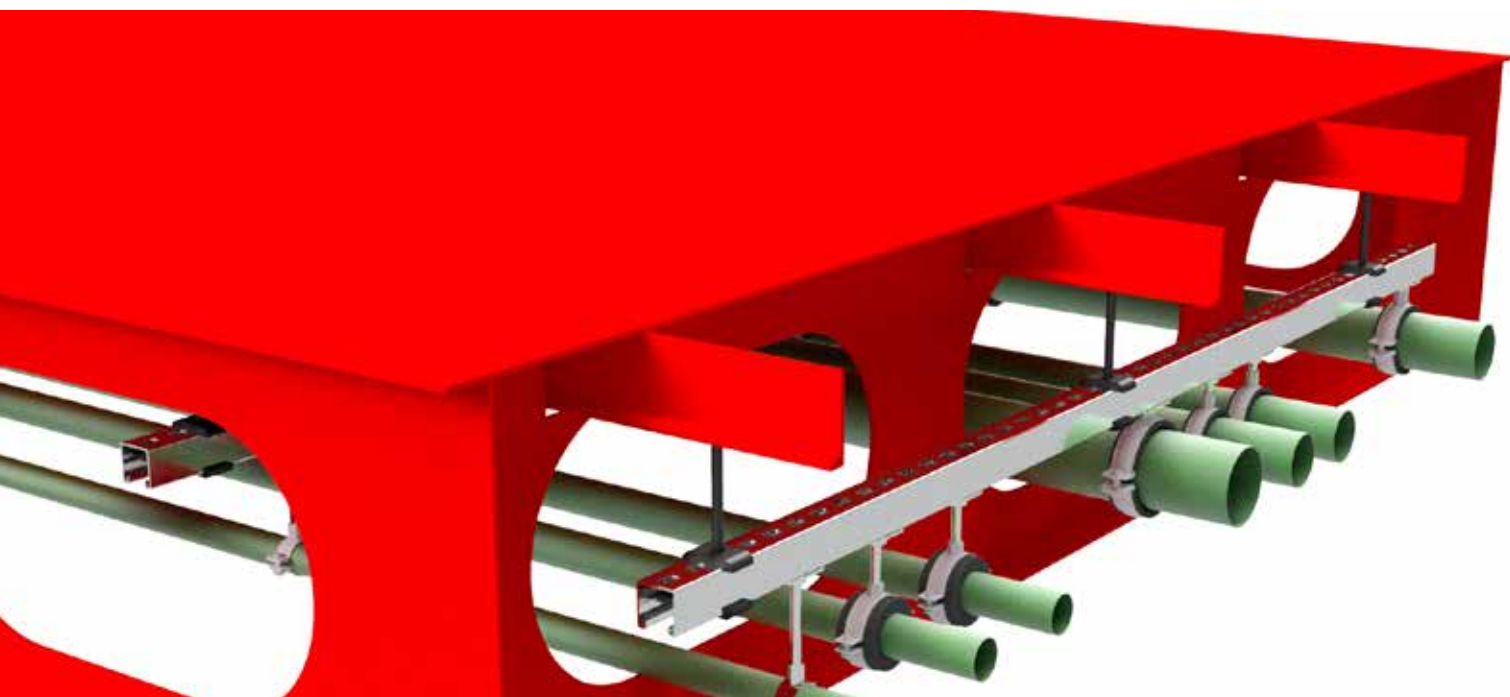
**VARIFIX® must have been designed for Cradle to Cradle®**

Thanks to its main material being steel, the system could be designed in such a way that it can be disassembled into its different materials and components after use and reprocessed for a new period of use applying a special recycling system. All materials used are non-hazardous and recyclable. With 82 %\* recyclability and a share of 45 % recycled material, VARIFIX® is among the best in class in the field of recyclability.



\* based on 98 % of total weight, plastic parts are neglected





# VARIFIX® QUICK-MOUNTING SYSTEM

**The all-inclusive system for technical installations saves time and combines high flexibility and safety.**



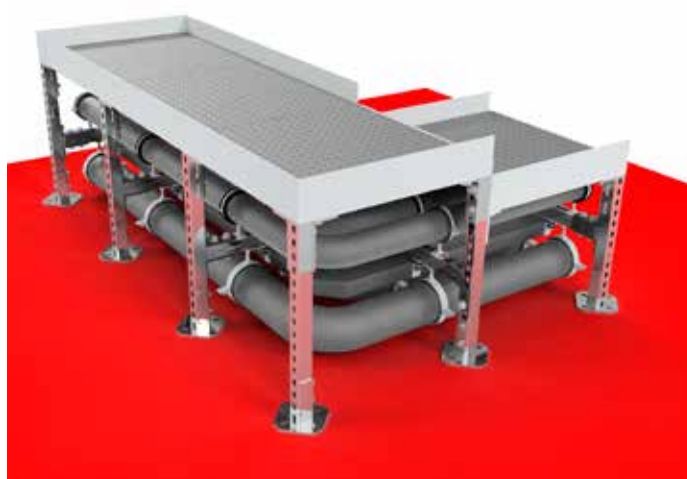
## **VARIFIX® APPLICATIONS:**

- Fastening of pipes and electric lines
- System support
- Wall pipe framing
- Framework structures for floor plates/catwalks

## **INDUSTRIES:**

- Piping
- HVAC
- Electrical installations

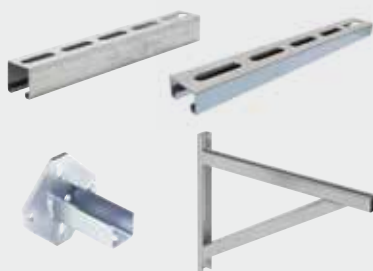
- ✓ Mounting system consisting of flexible components
- ✓ Quick mounting and reduced costs
- ✓ Little planning required thanks to system support type catalogue
- ✓ Planning reliability
- ✓ Weight saving
- ✓ No welding required
- ✓ For all standard applications
- ✓ Very high load-bearing capacity
- ✓ Suitable for all applications ranging from simple to highly complex installations
- ✓ Noise-tested products
- ✓ Fire safety of rails, brackets and pipe clamps tested
- ✓ Possible to retrofit or complement at a later stage
- ✓ Large range of Würth accessories



## VARIFIX® MOUNTING COMPONENTS AND ACCESSORIES

### C-mounting rails and brackets

(sample product selection)



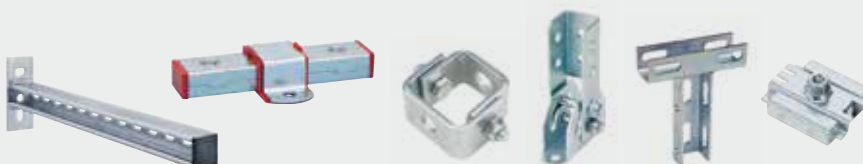
### Fasteners, hoses, refrigeration clamps, pipe clamps

(sample product selection)



### Accessories, sliding elements, fixed points and guide bearings, installation accessories, technical chemicals, insulation

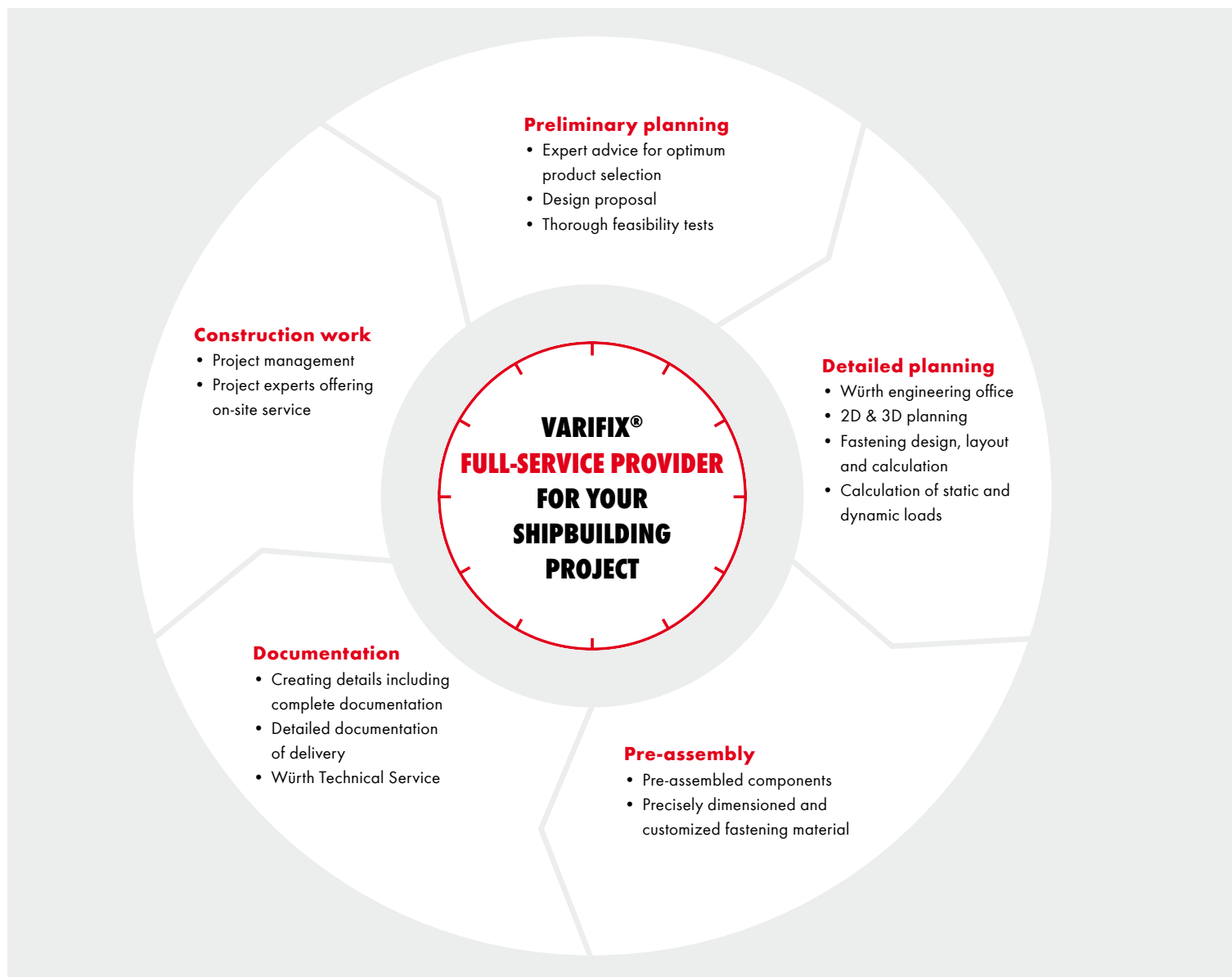
(sample product selection)

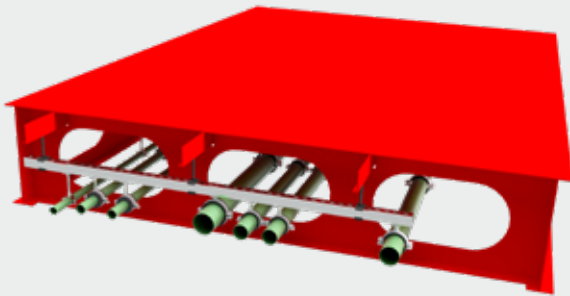


# EXPERTISE, SERVICE, TIMING: EFFICIENCY FROM A SINGLE SOURCE

## The VARIFIX® approach: from individual service to overall project planning

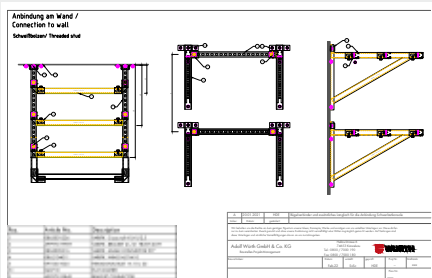
From the very beginning, Würth supports you individually to meet industry- and construction-related requirements of your project. Apart from Varifix® quality products, we offer you numerous services to make sure that your shipbuilding project will be implemented on time and in an economic manner. Würth's engineering and planning team offers expert support and detailed expertise for complex projects.





**FOR FIRST ANSWERS TO YOUR APPLICATION QUESTIONS ON VARIFIX® IN SHIP AND YACHT BUILDING: GET IN CONTACT WITH YOUR LOCAL WÜRTH REPRESENTATIVE**  
**FOR DEEPER TECHNICAL QUESTIONS PLEASE CONTACT THE WÜRTH ENGINEERING TEAM:**

[varifix.maritime@wuerth.com](mailto:varifix.maritime@wuerth.com)



### PLANNING RELIABILITY: PROJECT-RELATED SOLUTION DETAILS

In order to provide planners with reliable information with respect to demand analysis and cost estimation, we offer to prepare project-specific solution details. Based on determining sections, Würth engineers prepare a design proposal including proof of statics and bill of materials. This allows further optimization of detailed planning. In the case of an order, Würth engineers develop an appropriate logistics and service concept. Ideally, this will result in a coordinated mounting system across all trades: including proof of statics, positioned in the plan and, upon request, delivered pre-assembled, just in time and just in place.



### DIGITAL: WÜRTH VARIFIX® MOUNTING RAIL SOFTWARE

The Würth dimensioning software for mounting rails gives you the security you need when planning technical installations. The software helps you check whether your installation is technically feasible and whether there is sufficient space and it provides you with a reliable basis for your calculations and estimates:

- Load definition and positioning via integrated tube tables
- Proof of statics of all system components (rail, connectors and connecting elements)
- Printout of bills of materials and quantity surveys for the calculation

### PRACTICAL APPLICATION: DETAILED CATALOGUE OF FASTENING SYSTEMS

Fastening systems are an essential component of a functioning pipe system in your ship or yacht building project. Depending on the medium carried, load, permissible stress-strain behaviour and physical requirements may vary. Fastening must adapt to the respective structural conditions. Würth's detailed catalogue contains suitable solutions for a variety of media to be carried and pipe dimensions, which support the installer in building viable solutions, help the responsible project manager to instruct their staff and support the planning engineer in defining their quality standard beforehand.



# WÜRTH HCP COATING SYSTEM





# HIGH CORROSION PROTECTION

HCP is a special coating procedure. With **WÜRTH HCP 6000 +** we offer you optimum corrosion protection for your application. It exceeds the requirements of the corrosion category C5 (very high) according to the DIN EN ISO 12944 standard. To select the right corrosion protection, you need to know the environmental conditions such as humidity, temperature, air pollution (sulphur & chlorides) as well as salinity. The service life of the structure of the installed components to be protected also plays a certain role in the selection of the appropriate system.

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# WHAT IS BEHIND THIS HIGH-PERFORMANCE COATING HCP?

This is a modified cathodic dip coating, which is applied to the part to be coated in a special 3-layer structure consisting of an adhesive primer, a water-dissolved epoxy resin coating, which is applied to the part to be coated under DC voltage, and is then baked. After this, the powder coating, which is sprayed on electrostatically, is melted and baked at 180°C. A large range of colours from the RAL program is available for this purpose. This allows load criteria for fastening systems on steel to be achieved in accordance with DIN EN ISO 12944 in the highest corrosion category C5-I or C5 M/CX. The effect of neutral salt spray mist (according to ISO 9227) meets H (long) and exceeds the minimum requirement of 1,440 hours. Our **WÜRTH HCP 6000 +** system passed the salt spray test with more than 6,000 hours.

## The advantages of the HCP system are:

- complete and even coating, even in cavities, corners and edges
- resistant to acids, alkalis, oils and fuels
- homogeneous and smooth surface
- low-pollution paint process and environmentally friendly (solvent-free) coating system
- scratch-resistant and resistant to impact
- excellent adhesion to the steel substrate prevents formation of rust on the coating, even in the case of minor damage.

## More information on our Würth HCP 6000 + system

Work pieces up to 12 m in length, 2.3 m in width and 0.7 m in height and weighing up to 2,000 kg can be coated continuously and fully automatically.

We need 10 working days to process standard orders.

If a coated component requires subsequent machining (drilling or sawing), it must be reworked as described in the following.

Use our Würth products to produce a 3-layer coating structure:

- 1. Apply primer:** Würth 2-component epoxy primer with a TSD\* of 80 µm or more
- 2. Apply intermediate coating:** Würth 2-component epoxy primer with a TSD\* of 180 µm or more
- 3. Apply top coat paint:** Würth 2-component thick coat lacquer with a TSD\* of 60 µm or more

\* TSD = dry layer thickness

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# WÜRTH – SURFACES BY CORROSION CATEGORIES

According to DIN-EN ISO 12944 or DIN EN ISO 14713

	Corrosion category	Corrosion loading	Indoors (examples)	Outdoors (examples)
Galvanised, hot-dip galvanised steel strip	C1	<b>insignificant/very low</b>	heated buildings with a neutral atmosphere, e.g. offices, shops, schools, hotels	none
Galvanised, hot-dip galvanised steel strip	C2	<b>little/low</b>	unheated buildings where condensate may occur e.g. warehouses, sports halls	low-pollution atmosphere
Hot-dip galvanised, zinc-nickel-plated	C3	<b>moderate/average</b>	production premises with high humidity and pollution e.g. food production, laundry, breweries, dairies	urban and industrial atmospheres, moderate pollution by sulphur dioxide coastal areas with low salinity
Würth HCP 6000+	C4	<b>strong/high</b>	chemical plants, swimming pools, boat sheds over seawater	industrial and coastal areas with moderate salinity
Würth HCP 6000+	C5-I	<b>very strong (industry)/very high</b>	buildings or areas with almost constant condensation and high levels of pollution	industrial areas with high humidity and aggressive atmosphere
Würth HCP 6000+	C5-M/CX	<b>very strong (sea)/extreme</b>	buildings or areas with almost constant condensation and high levels of pollution	coastal and offshore areas with high salinity

**DIN EN ISO 12944** defines the corrosion categories that divide the environmental conditions into six different categories - from insignificant to very strong or extreme. DIN EN ISO 12944 deals with the corrosion protection of steel structures through coating systems, while **DIN EN ISO 14713** deals with the corrosion protection through zinc coatings. Both standards contain almost identical corrosion categories.





## **VARIFIX® MARITIME**

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