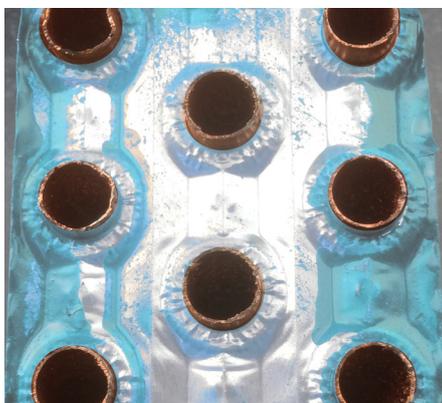


A coating is as good as it's application

The difference between cosmetic spray and corrosion protection.

There seems to be more and more acceptance that heat exchangers of air-conditioning installations need corrosion protection.

This is the case for general coastal environments but also local so called "micro climates" are acknowledged to be cause of early leakages and efficiency loss.



A "great" coating

+

Poor Coating application

=

Very limited corrosion protection

Where copper-aluminum coils need to be protected from galvanic corrosion, the newer design Micro Channel Heat Exchanger coils have more issues with localized pitting corrosion.

The increasing market awareness has resulted in more and more corrosion protective measures being specified. Unfortunately these specifications often focus mainly on paint properties as presented by coating companies.

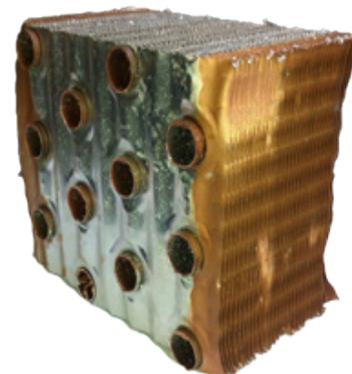
It is clear that protective properties are a result of a good coating in combination with a good application.

Simply spraying a "great" coating on a coil does not result in real corrosion protection. **Specialists are required!**

Aluminium and copper require special pretreatments to create a strong bond between the metal and the protective coating, the result of this pretreatment must be checked and filed. To ensure 100% coverage of all metal areas, special procedures are required for every different type of heat exchanger coil. The coating must be forced throughout the coil without blocking the original airflow. The result of the coating application must be checked visually by means of endoscopic inspection. A high level of coil corrosion protection starts with the use of a high quality coating but can only be reached with a high quality application process and follow-up (service).

"A coating is as good as it's application!"

Next to laboratory test results of the coating, specifying the application process and quality control measures are required to get a qualified and guaranteed corrosion resistant heat exchanger.



Good to know:

An average condenser coil might have 75 m² (heat exchange) area to be coated for every m² of frontal (faced) surface! The difference between coating the whole coil instead of just the frontal surface is huge. For example, coating consumption on a condenser coil of 2 x 1 mtr is either 7 kg (total coverage) or just 2.5 kg for only frontal area application. This means that companies that only require frontal coil surface for quotation do not intend to coat coils completely. The price for coating a 2 row coil of 1m² can never be similar to a coil of 4 rows and also 1 m²!



Author : Jeroen de Wit
R&D manager at Blygold International

Blygold specializes in high quality heat exchangers corrosion protection. The company has a 40 year track record of protected heat exchanger coils in the most aggressive circumstances all over world. The Research and Development department of Blygold International focuses on product- but also procedure development solely applied to heat exchangers.