



OO/UC3M/17 - USE OF CORRUGATED STEELS IN CONSTRUCTION APPLICATIONS

The Research Group of Materials Performance works in the study of several corrugated steels, especially stainless steels. Different aspects are developed as corrosion tests and evaluation of welded joints, between similar and dissimilar materials. It is sought to find construction companies interested in the application of this technology.

Description of the technology

Corrugated stainless steels are being employed in the last years due to their good mechanical properties and better corrosion resistance, especially in marine environments and against carbonatation. They are not commonly employed, except in countries as Germany or Sweden, due to their initial costs, although they can be a cheaper option than the traditional carbon steels at long term. Good practices promote their use in areas susceptible to be attacked in the installation. Also, stainless steels are a good choice when repairing a structure. Problems of welding have an easy solution when taking the suitable means. Our Research Group can collaborate with companies interested in this area, through specific training courses, as well as working in the solution of problems or developing projects in the medium term to implement the adhesive technology in the construction processes.

Innovative aspects

Corrugated stainless steels show better corrosion resistance than carbon steels, better resistance to marine environments and better performance when concrete is carbonated. Mechanical properties are excellent. Their use is mandatory in particular installations in several European countries.

Competitive advantages

The accurate employment of corrugated stainless steels allows the company the use of more imaginative solutions, the application of new materials and sometimes the decrease of construction costs.

Current state of intellectual property: Know how property of the developed processes and products will be studied in the agreements with partners.

Keywords

Stainless steels. In service Corrosion performance

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