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The behaviour of a particular technique of passive fire protection

This project consist in analyze the behavior of a particular technique of passive fire protection; this technique is the coating of steel structures with intumescent paints.

The analysis of the behavior of the intumescent paint is focused on two important aspects:

- Analyze the characteristics as thermal insulation towards a fire situation. This thermal behavior of the painting is done by a calculation of the thermal conductivity of the paint under the action of fire.
- Analysis of the paint's expansion in a real fire situation. This mechanical behavior of the painting is made from the characterization of the growth of painting under the action of fire.

Both aspects will be analyzed depending on the thickness of paint applied and the massiveness of the protected structure to characterize the behavior of the coating compositions more common in the construction.

Performing this analysis has been done experimentally in the laboratory using different methodologies developed by ourselves.