Constructional design of curtain wall façade inspired by hydraulics science

In recent years, the facade construction has been changed a lot. The use of curtain wall facades is the best solution to Supply the demands of the building engineering group. The curtain wall Facade has a capability to supply the expectations of the facade. There are large spectrums of construction system for curtain wall Facades that mainly concerned with the quality of their functions. Besides, we are able to mention the common points that can be seen among the facades such as: integration, lightness and particularly their transparency. The cable net façade is a new generation of Curtain wall Façade, having been previously used as a cable net structure to cover vast areas. According to the overall structure of the cable net Facade, there is a possibility that can be increased integration of façade. On the other, by increasing the façade’s area, other destructive factors such as vibration and large displacement are involved in the facade design. Many solutions have been proposed to eliminate these factors, mainly affecting the transparency of the facade. In this article, we are trying to offer a mention called "hydraulics science" as an appropriate solution. "Damper" is just one of their applications in the construction industry that is mainly used in the issue related to earthquake. Therefore, by using the structure and function of "damper" system as well as taking inspiration from industrial use of it, a new mention has been presented that can reduce the effects of vibration on the façade and correspondingly utilize its output energy.

Keywords: Curtain wall façade , Constructional design , hydraulics science , Damper.
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