The importance of the use of geometry in architecture design, and more specifically the use of geometric surfaces that shape the architectural space as is the focus of this research. It adds value to the use of these geometric shapes defined as a control element in the design phase of buildings and which in turn helps maintain consistency with the structural behavior and greater ease in both the execution and the constructive realization.

First we make a historical survey on the use of geometric surfaces at different times and currents of Architecture, as well as the current research are different in this respect.

Subsequently, a study passes those geometric surfaces greater application in the design of architecture, complemented with the development of analysis of buildings in which the use of these geometries is a fundamental part of its design. We analyzed buildings from different eras and made with different materials and different structural systems.

To conclude the development of research, there has been a case study of geometric formal analysis, the “City of Arts and Sciences” of Valencia, which is an example of application of geometric shapes in the current architecture. Analysis mainly generating surfaces slope also collect structural and constructional studied from the standpoint of geometric.

As a conclusion to the work we have done two summary tables, one with the classification of geometric surfaces applications in architecture, the result of research on the different classifications, and a summary table of the analysis performed on the CACV, which has RATE FITNESS established application of these surfaces that takes into account both geometric design and geometry structural coherence and applicability of geometry in the construction of surfaces.