

Special designs

The task of realizing visionary structures is typically far more demanding than that of realizing more common structures. The reasons why this is so are numerous, including the use of more complex geometries, the introduction of novel materials or the combination of load-bearing and facade or envelope functions. We accept the associated challenges with alacrity, developing innovative solutions that blend creativity with a solid grasp of the fundamentals. The focus of our efforts is on creative designs, meticulous structural analysis and a careful implementation of details.

Our experience and competence in designing load-bearing structures goes beyond conventional materials such as concrete, steel and wood to novel materials such as:

- Glass
- Fiber-reinforced composites (GFRP, carbon)
- Natural stone

For instance, glass may have a load-bearing or structural function while also serving as part of the facade, which presents its own challenges. Developing sound solutions, however, requires an ability to unify expertise in facade design and structural engineering.

We take advantage of the possibilities offered by digital tools, both to define and optimize form in the design stage and to prepare design elements for prefabrication in modern production facilities. Outstanding architectural designs often require a departure from the safe zone marked out by engineering and construction standards. While this leaves more space for creativity, it also requires more extensive analysis and verification. In any case, what is important is a solid understanding of the physical principles involved and of the unique properties of the deployed materials. Analyses of load-bearing structures often lead to questions that can only be answered by testing. Thanks to our regular cooperation with research institutes, we are able to keep abreast of the latest research findings while also profiting from easy access to testing facilities that allows us to carry out any necessary project-specific studies.