Watney Solid +/- Void is an art installation for SXSW, the premier music, film, and technology festival in Austin, TX. The design process began with a catalogue of nearly 150 forms. After several iterations and further development of three schemes, a single form was selected.

Watney Solid +/- Void consists of three main components: a steel plate base, 21 individual fragments, and the outer skin. The fragments were developed through parametrically based computation methods and real-time structural analysis. Multiple iterations were tested for their ability to withstand dead and live loads. Each individual fragment is comprised of three parts: the waffle, the end caps, and the offset end-caps. The end-caps are secured to the waffle through teeth that hinge from the edge of each individual waffle element. The 2” offset end caps are then mechanically attached to the outer surface, causing a slight reveal at the seam between fragments, accentuating the fractured nature of the form.

Watney Solid +/- Void provides a new take on a conventional structure system – the waffle rib system. By treating each part as an independent self-structuring, uniquely formal object, Watney Solid +/- Void disentangles the parts from a top-down structural scheme. Consequently, the assembly of multi-directional waffles contained by the surface of each part, once assembled, produces a whole that is much stronger than had a conventional rib system been used. Furthermore, the manifestation of each part’s particular structural solution is, like the object itself, guided by an internal logic that relates to other properties of the part in which it is contained, as well as conditions imposed by the whole and contextual cues (including occupation, views and environmental/cultural responsiveness).

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WATNEY Solid +/- Void

WATNEY Solid +/- Void is an art installation for STAFK, the premier music, film, and technology festival in Austria. The design process began with a concept of using 3D printed polyester galvani to create a functional and artistic installation. Various schemes were developed, and four were selected.

WATNEY Solid +/- Void consists of four segments, each with a unique 3D printed fragment, and the outer side. The fragments were designed and fabricated using 3D printing technology, resulting in an aesthetically pleasing and functional installation. The segments were also designed to be assembled with ease, allowing for quick installation and disassembly.

The design of WATNEY Solid +/- Void allows for smooth movement and interaction with the installation, creating a unique experience for the viewers. The outer side of each fragment is covered with a thin layer of metal, enhancing the structural integrity and adding to the overall aesthetic appeal.

WATNEY Solid +/- Void provides a new take on a conventional structure, making it a unique piece. By embedding each segment as an independent self-supporting module, a holistic total form is achieved. The 3D printing process ensures the highest quality, providing a solid and stable structure that can withstand the elements.

In conclusion, WATNEY Solid +/- Void is a remarkable art installation that combines art, technology, and functionality to create a unique experience for viewers. The 3D printing technology used in the creation of this installation highlights the potential of digital fabrication in contemporary architecture.