3D Construction Set

Desktop 3D printing has revolutionized the production of custom parts. Unfortunately, low-cost 3D printers are only useful for a narrow range of part dimensions.

Small, thick, and blocky prints usually come out well. They are strong and reasonably precise. Long and thin parts shrink, warp, and withstand no useful load.

Enters UNI•QB, our innovative 3D construction set for the 3D printing age.

Remember the construction sets of yesteryear? You probably had one as a kid. It contained stamped rounded sticks with holes in them. You could make just about anything with these sticks, as long as it was a toy.

UNI•QB is a 3D construction set for industrial and lab applications requiring strength and precision. The kit includes innovative, patent-pending solid cubes and beams that are CNC-machined or molded from a high-grade metal alloy.

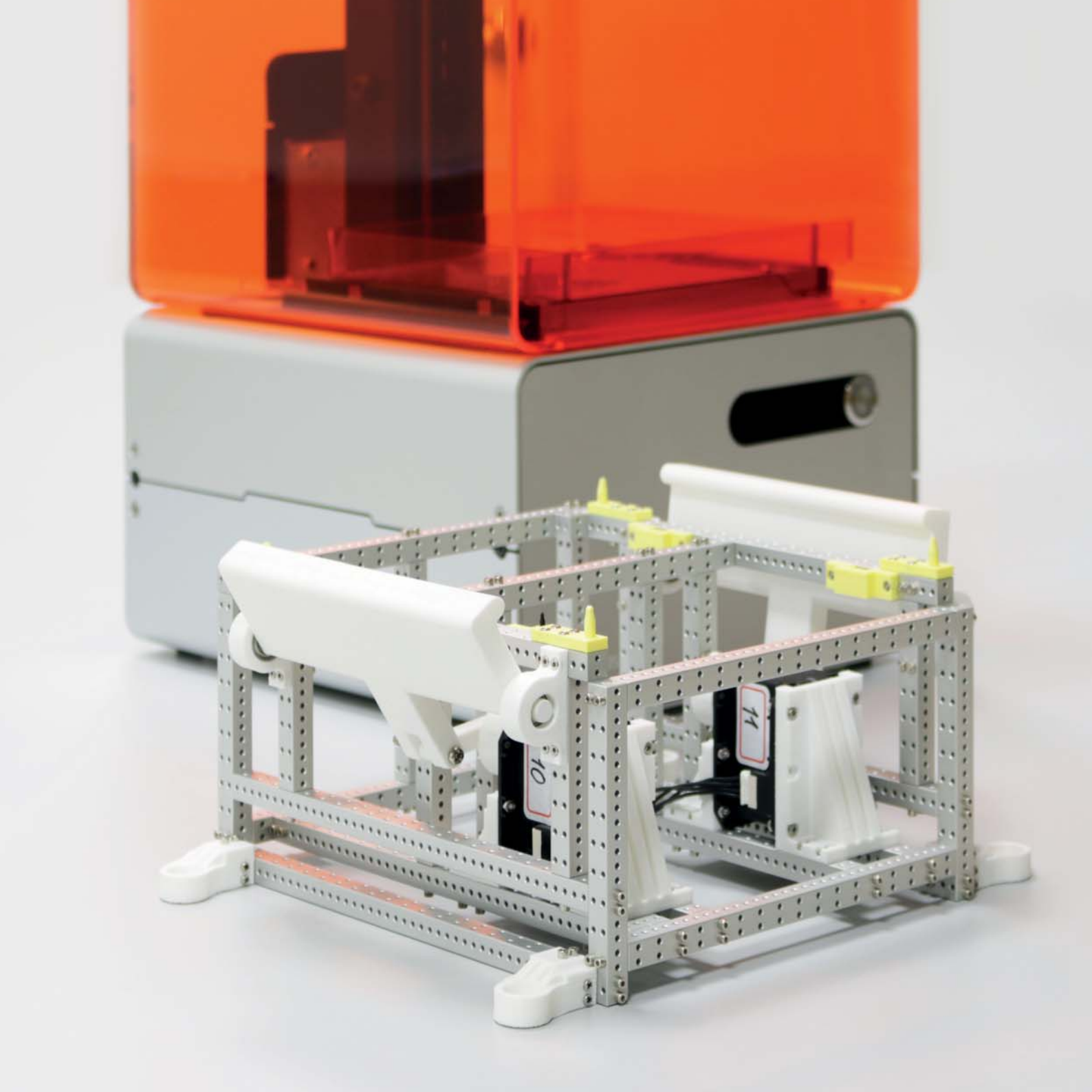
With UNI•QB, you can assemble the skeletal structure of your creation from our beams and cubes, then design and print your small custom parts on your desktop printer. This is quick, inexpensive, and the resulting structure is exceptionally robust.

As with many inventions, UNI•QB was born of necessity. Tibbo needed a way to speed up the creation of manufacturing fixtures and props, and I just couldn't seem to find the right way of building them fast and cheap. I had a 3D printer, but it was useless for most of my tasks... until I invented the UNI•QB kit, that is.

Now all our robotic fixtures, like the one shown on the right, are made with this new approach. We assemble the bulk of our manufacturing props from beams and cubes of the kit, then add specialized parts fabricated on a low-cost desktop 3D printer.

I hope my new UNI•QB kit will get your creative juices flowing. What will you build with it? Let me know at www.uniqb.com/myidea.

Dmitry Slepov,
Managing Director and Co-founder,
Tibbo Technology Inc.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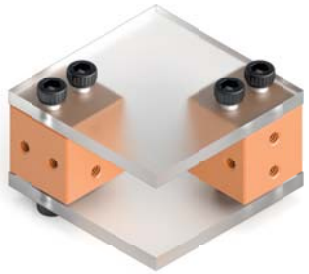
This is a QB – a simple, versatile aluminum cube with a 10mm or 0.5” side. Each face of the QB has a pair of mounting holes with a distance of 5mm or 0.25” between them. All holes are through holes, oriented in such a way that they do not intersect within the QB.

QBs come in two versions. The original QB has threaded holes. The plain QB has holes without threading.

QBs and beams are supplied with high-quality hex screws. For the most part you will only need the screws of two sizes: “standard” screws and “long” screws.

Our QB is a perfect little companion in your quest to build things. CNC-machined to a high degree of precision, it can be used to hold three walls at 90 degrees to each other...

...Or join two plates...



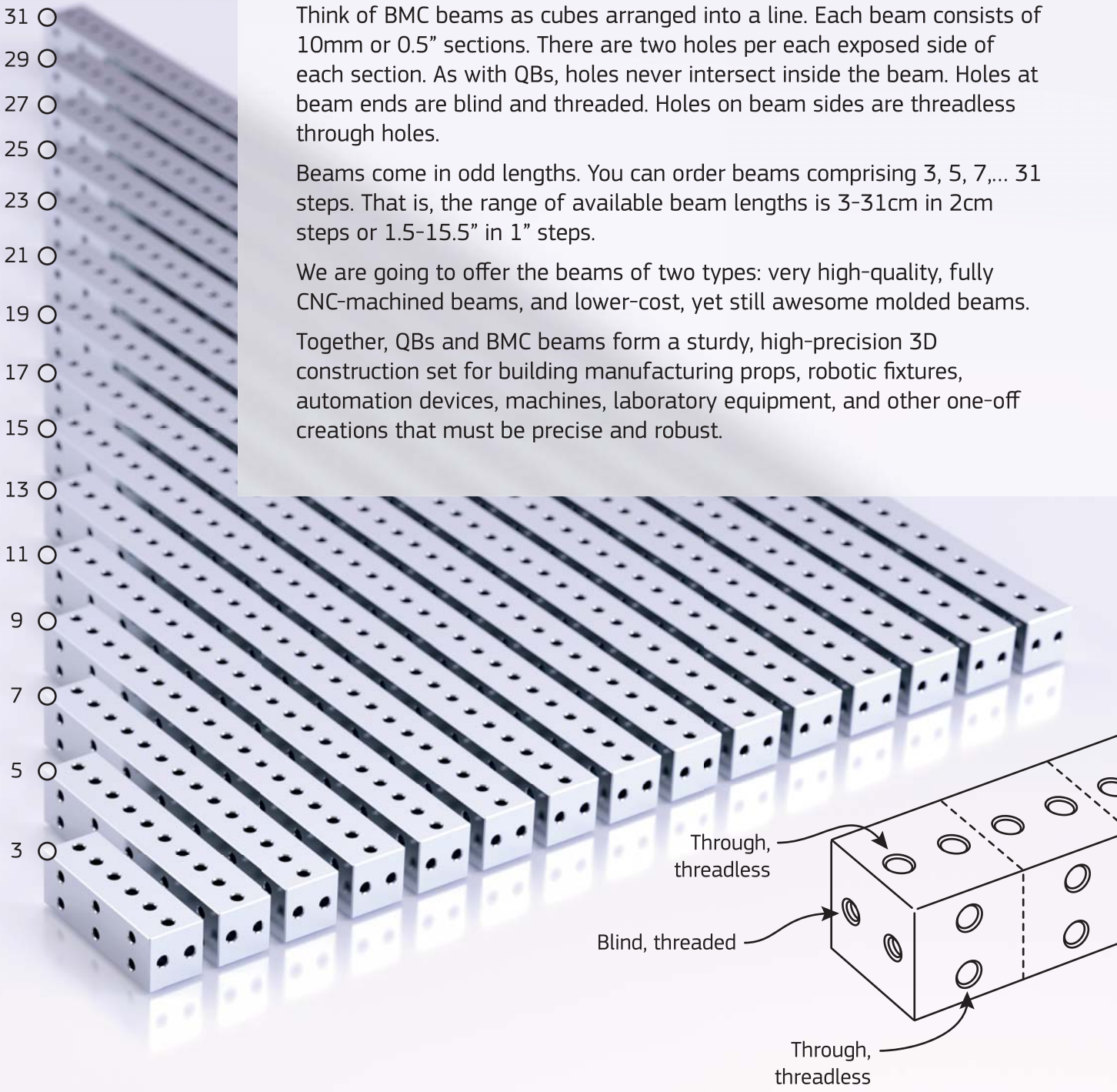
... Or arrange two parallel walls at the perfect 10mm or 0.5” distance from each other.

Think of BMC beams as cubes arranged into a line. Each beam consists of 10mm or 0.5” sections. There are two holes per each exposed side of each section. As with QBs, holes never intersect inside the beam. Holes at beam ends are blind and threaded. Holes on beam sides are threadless through holes.

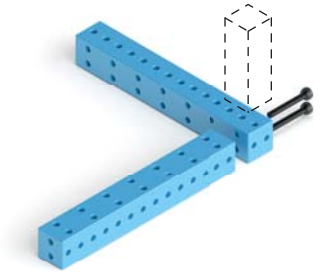
Beams come in odd lengths. You can order beams comprising 3, 5, 7,... 31 steps. That is, the range of available beam lengths is 3-31cm in 2cm steps or 1.5-15.5” in 1” steps.

We are going to offer the beams of two types: very high-quality, fully CNC-machined beams, and lower-cost, yet still awesome molded beams.

Together, QBs and BMC beams form a sturdy, high-precision 3D construction set for building manufacturing props, robotic fixtures, automation devices, machines, laboratory equipment, and other one-off creations that must be precise and robust.



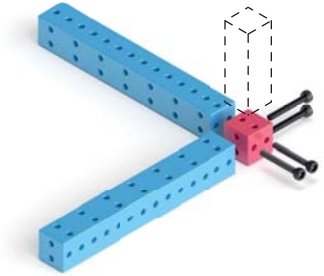
Basic Assembly Techniques



The simplest 90-degree bend making use of the threaded holes on beam's ends. The structure is held together with our standard screws.

The resulting corner is always asymmetrical. As only beams of odd lengths are offered, one side of this bend will always be longer than the other. For example, if you use two BMC-7 beams you will end up with a bend that has one side of 7 steps, and another side of 8 steps.

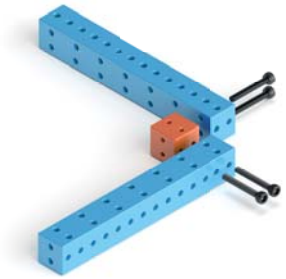
This bend can be easily extended into the third dimension by adding a perpendicular beam.



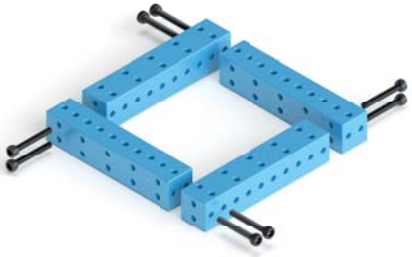
A symmetrical bend utilizing the plain QB in its vertex.

Use this structure to build a bend with equal sides comprising an even number of steps. For example, if you take two BMC-7 beams you will construct a bend with sides of 8 steps.

This bend can be easily extended into the third dimension by adding a perpendicular beam.

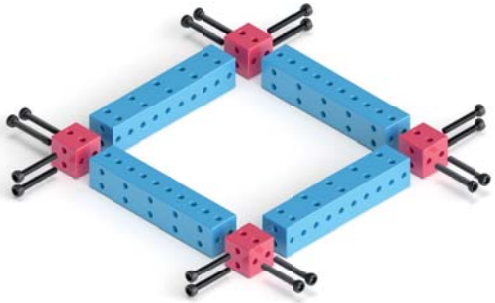


Yet another variation on the symmetrical bend, with the threaded QB used for holding two beams together.



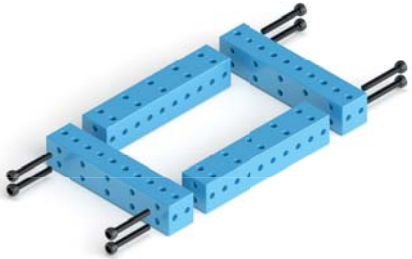
Here is a method of constructing a square with each side comprising an even number of steps. For example, use BMC-5 beams to build a 6x6 square.

This structure can be easily extended into the third dimension, but you won't be able to make a perfect cube – side walls will form rectangles, not squares.

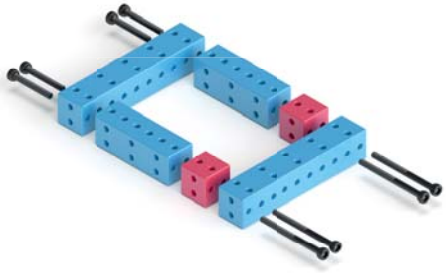


In this method, plain QBs are used in each vertex to construct a square with sides comprising an odd number of steps. For example, four BMC-5 beams will build you a 7x7 square.

This structure can be easily extended into the third dimension to construct a perfect cube.

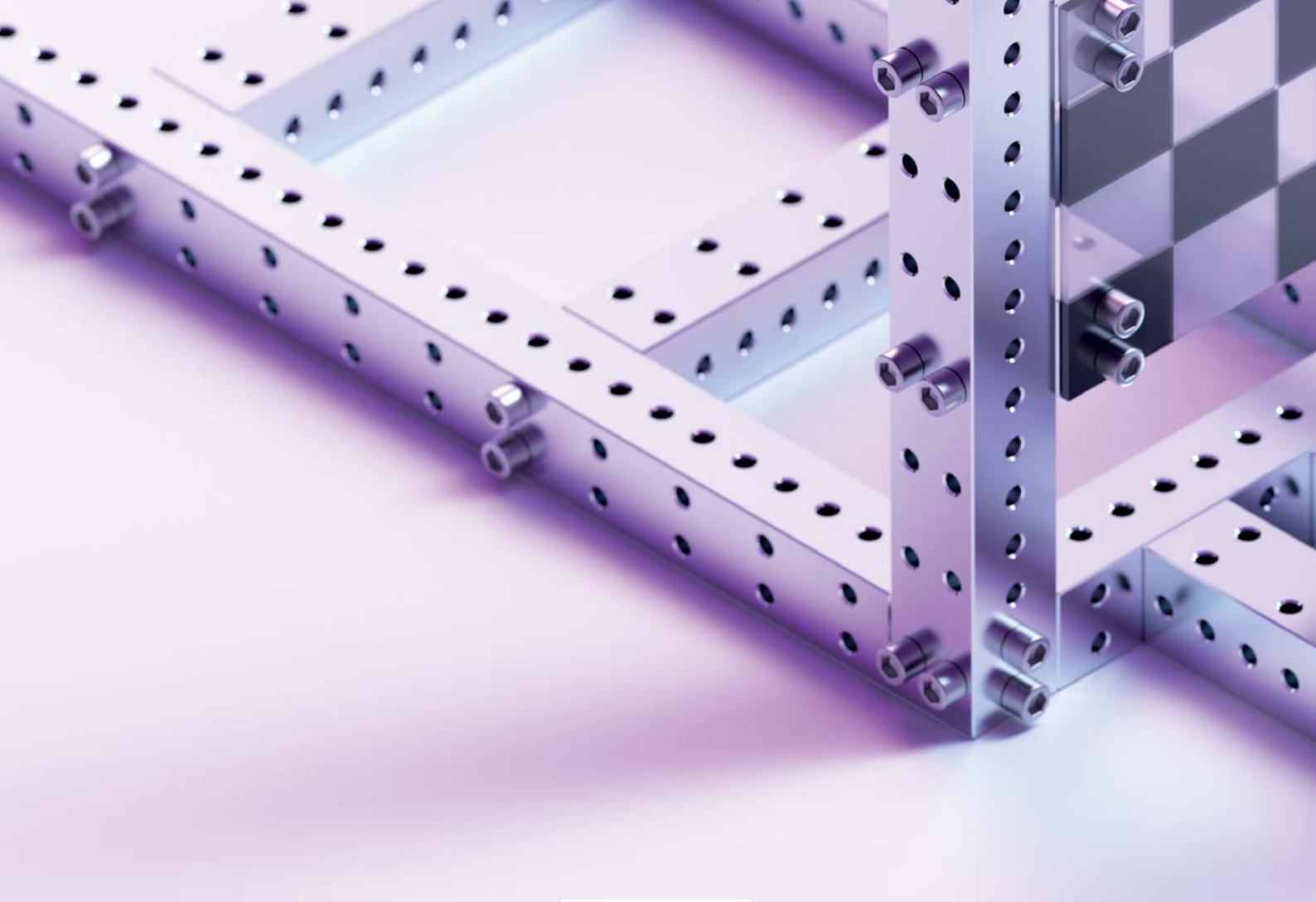


This is how you create a rectangle with odd-sized sides. For example, assemble together four BMC-5 beams to create a 5x7 rectangle.



Use plain QBs to turn any beam (and beams always come in odd sizes) into an even-sized "beam". For example, take two BMC-3s, two BMC-5s, and two plain QBs to construct a 5x6 rectangle.

Turning odd-sized beams into even-sized beams requires the use of our long screws.



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