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Making concrete from recycled glass

Construction relies on sand, which makes up 30% of concrete, the industry's main raw material. But supplies of commercial-grade sand, which is being gobbled up by builders faster than nature can replace it, are running low. Welcome news, therefore, comes from engineers in Singapore, who have developed a way to replace the sand with a relatively plentiful material: recycled glass. As described in the *Journal of Building Engineering*, they have 3D-printed a bench made from a concrete mixture that incorporates crushed glass.

The prototype is a squat affair. It stands just 40cm tall, the result of extensive experimentation with different recipes. The engineers' mixture is nimble—it flows smoothly during printing, but once set, meets industry standards for strength and load-bearing. Glass is 100% recyclable, so its use in 3D printing seems ideal for the circular economy. The result may be unattractive, but on its sturdy frame rest hopes for a more sustainable future in building.

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