

Abstract Submitted  
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**How holes can reinforce soft solids** ROBERT STYLE, ETH Zrich —  
Normally embedding holes in a solid makes it softer. However, when the solid is small enough, the opposite can be true. We show this with soft composites (consisting of liquid droplets embedded in a soft silicone gel) which stiffen as the volume fraction of droplets increases. This is due to the surface stress of the gel/liquid interface. We also discuss the time-dependent behaviour of these materials.

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