Subject: FUD wax removal.
Posted by stop4stuff on Fri, 03 Jun 2011 07:34:07 GMT
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With the arrival of FUD and the ability to have very small clearances between moving parts in one print, to me one obvious application was an attempt at creating the worlds smallest working rubiks cube - the current record stands at 10mm, my cube is 6.2mm and printed in one hit

3x3x3 Twisty Puzzle (aka Rubiks Cube)

Large image here

The spacing (as printed) between the parts is 0.1mm - the spaces are filled with the wax support material. Here's a few of the methods/products I have tried in an attempt to disolve out the wax and free up the parts.

Hot water - the wax melted out, but some of the parts were fused and one part broke - I tried two cubes out using this method, the second broke too.

Alcohol hand sanitiser - this product contains 62% ethanol and seemed to affect both the wax and plastic resulting in some parts stuck together, the central spindles gone soft and broken.

Penetrating oil (WD40 etc) - partial success, but still one of the central spindles broke.

Mineral/white spirit - disolves the wax ok, but also softens the plastic leading to breakage and failure.

Ear Wax Remover - still soaking in this - the remover is quite a viscous fluid at room temperature, and thins qute readily with a bit of heat - this product may work out ok if the temperature can be kept 10-15 celcius above roome temperature (think body heat)

Weak NaOH soultion (caustic soda/lye) - still soaking in this - again this is looking promising

One of the main issues I have with the cubes are the spindles breaking - currently they are 0.7mm diameter - this maybe because I am not waiting long enough before attempting to move the parts.

Feel free to add ideas, share attempts, sucesses & failures.

Cheers,
Paul