

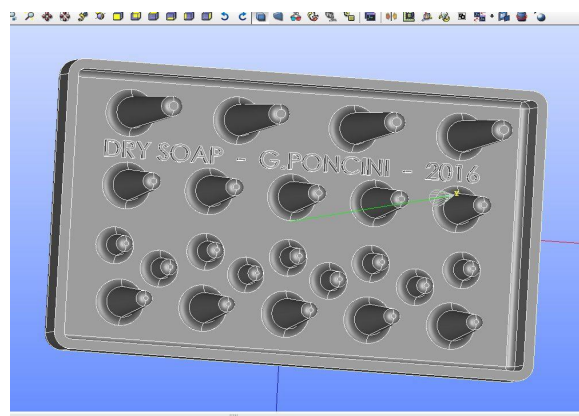
# Efficient soap holder

Unhappy with commercial soap holders, i decided to design my own. In general they are unable to dry soap after use, even if they should be designed for this purpose. Aesthetic and cost factors are seen as more important from producers.

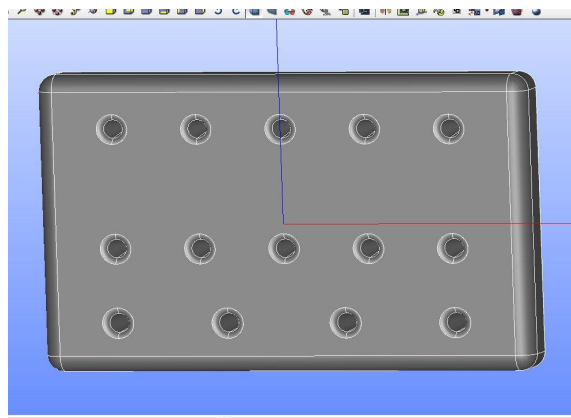
Key factors for a correct behaviour are : 1) soap sustainers should be tipped, to avoid water accumulation below soap. 2) soap sustainers should be quite high, to permit air flow below, dissipating water vapour. 3) soap sustainer distance should not be too close, again to avoid water accumulation below soap. 4) soap sustainers should permit an inclined position of soap, easing water drain.

Using 3D printers build the right plastic part is easy, if you know how to design it. Let 's start with CAD. The real wonder on the net is Salome Meca, a powerful 3D volumic CAD, integrated with FEM, kindly offered to the world by EDF (Electricite' de France). EDF uses it to design nuclear reactors, then it is a real professional tool, not a toy for hobbist.

The first creation phase ended with the design shown in pictures (beta release), top



and bottom

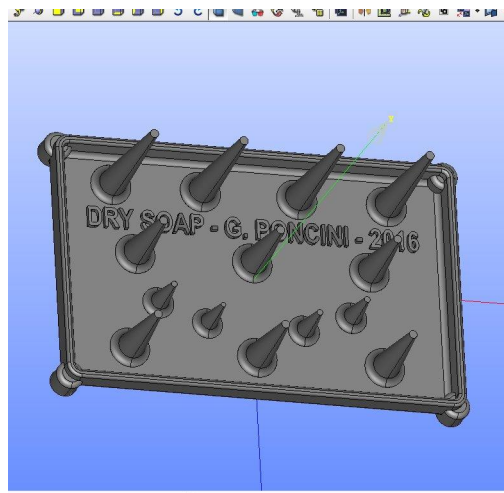


The first prototype built is shown in picture.

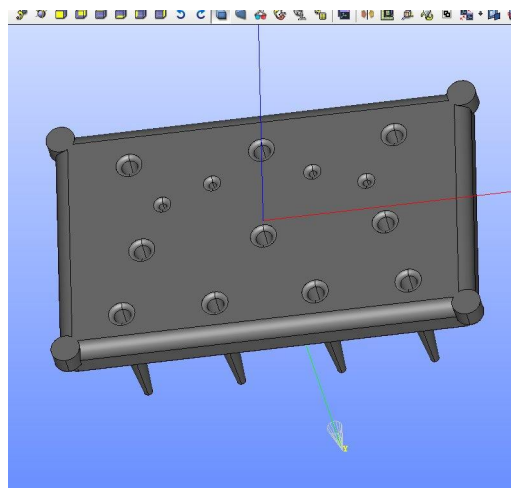


Drying of soap was good, but not perfect, then basic principles exposed at the beginning were increased. Tips are been modified to be higher and more sharp. Their number was also reduced.

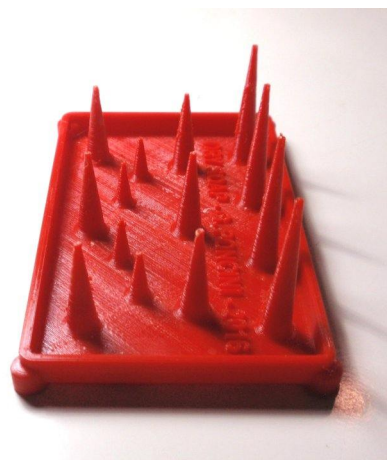
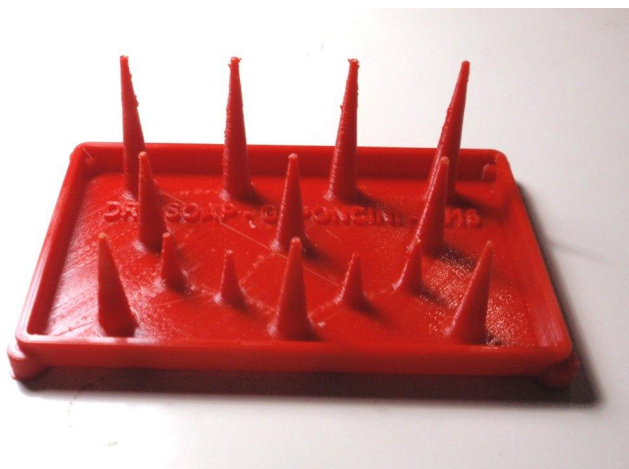
Here is the CAD of Release Candidate, top



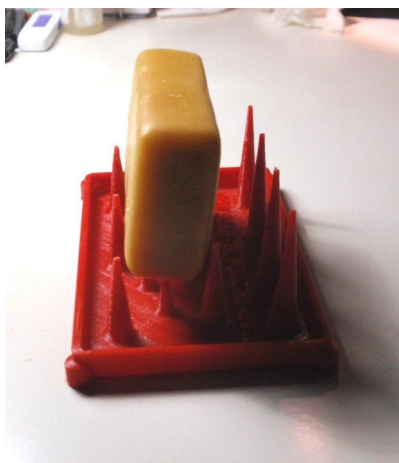
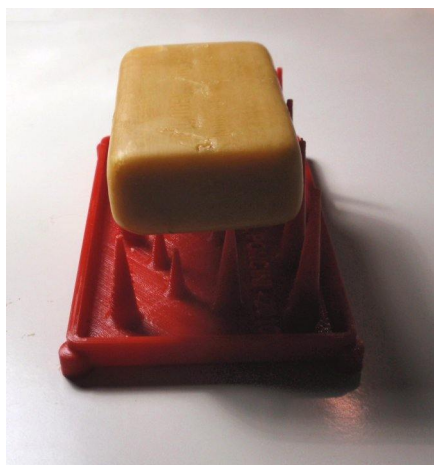
and bottom



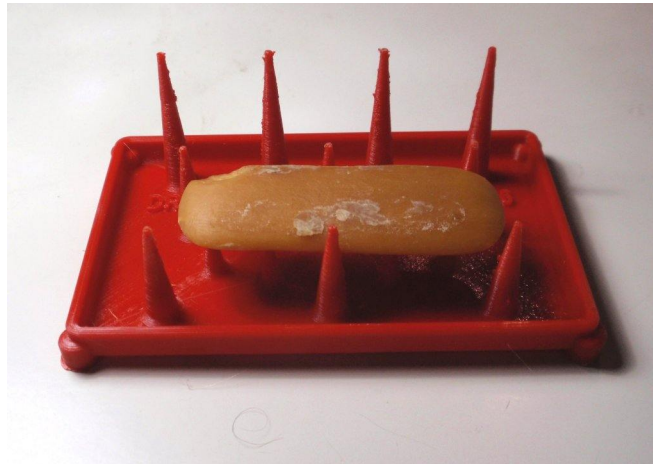
Here are some pictures of the Release Candidate built. Drying works as expected. The design can accomodate different sizes of soap blocks, big, small, and very, very small, when used and almost finished.



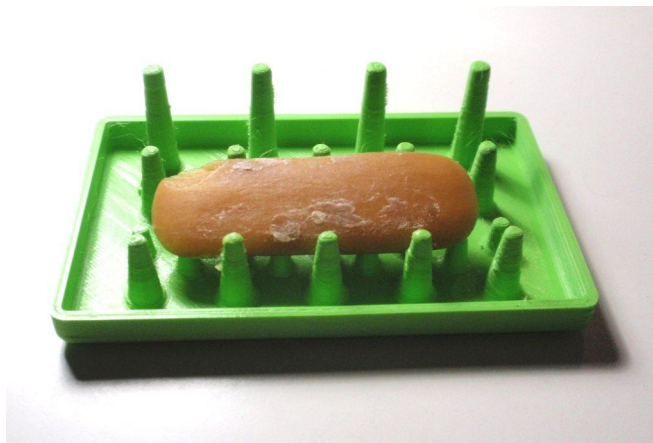
Soap new in different possible positions



A very used piece of soap can also accomodate :



In the beta version also :



As a final consideration, the most used material for 3D printers, PLA, is not recommended. It is designed to be biodegradable, and slowly dissolves in water, always present in this application.

Better to use ABS, or, better, a polyester, like CPA or PET, highly hydrophobic.

Let me end with a thanks to EDF for his wonderful Salome Meca.

Turin (Italy) July 2016

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