The FiXhub MatEriaLs Library

THE INSTITUTE OF MAKING SELECTION

The Institute of Making is a multidisciplinary research club with a growing community of over 3000 members interested in the made world. Based at University College London, their mission is to provide all makers with a creative home in which to innovate, contemplate and understand all aspects of materials and making.

Their Materials Library is a growing repository of extraordinary materials, which have been gathered together for their ability to stimulate imagination and advance conceptualisation.

In response to the Brave Fixed World, the Institute of Making have selected materials that been created with the specific goal to enable repair or, in extreme cases, to make it obsolete.

1 **RAW METAL STAPLES**
Headless pin nails used by furniture makers when affixing and repairing fragile materials. Less obvious and less likely to split small pieces of wood than larger nails.

2. **GECKO TAPE**
Made of silicone rubber with billions of microscopic hairs on its surface, giving it a strong adhesion without the use of glue to various surfaces including glass, plastic and painted wood.

3. **WOOD FILLER: PVA GLUE & ELM WOODSHAVINGS**
Designed to create a smooth-textured finish by filling a wooden structure's porous grain, this' paste' makes it possible to achieve a mirror-like finish.

4. **TIPP-EX CORRECTION FLUID**
Correction fluid used for painting over mistakes on paper, comprised of an opacifying agent, a polymeric film former and an organic solvent. Developed in the 1960s by Tipp-Ex GmbH & Co. KG.

5. **TIPP-EX CORRECTION TAPE**
Pressure-sensitive correction tape used for masking errors on paper and similar material, made up of a foundation, adhesive and a pigment-based masking layer.

6. **3M PRESSURE SENSITIVE TAPE**
Pressure-sensitive tape consisting of two main layers: a synthetic or natural rubber adhesive mass, and the backing. The company 3M manufactures 1,000 different kinds of tape.

7. **NITINOL METAL SPECIMEN**
This spring-shaped metallic specimen is formed of Nitinol metal which is a shape memory alloy. Cooled, the material can be bent and twisted beyond all recognition but, on heating, the low temperature atomic arrangement reverts to its previous form.

8. **ZEBRA FISH**
Zebrafish have the ability to regenerate, revive and repair various tissues and cells in their body. Understanding their regeneration abilities could give scientists clues into how to regenerate damaged human heart tissue.

9. **BIOACTIVE GLASS SCAFFOLDING**
A new material designed to sit between fragments of bone in place of missing material. As the bone grows it consumes the scaffold, eventually leading to a perfectly fused join.

10. **SELF-HEALING CONCRETE**
When a crack appears in this concrete, water seeps in and reactivates a bacteria. Once the bacteria eat a food source they excrete calcite, which heals the crack. The bacteria can survive dormant in the material for 50 years.

11. **RUBBER, WHITE & COLOURED**
Rubber's polymers are stickier than the particles of paper, making pencil graphite particles stick to the eraser instead. Rubbers erasing properties were only discovered in the 18th century.

12. **99C ALLOY AT 0.7MM & 1.2MM**
Soldering is a process for joining two or more metallic things together. As a material, solder's flexibility and diversity enables the process of soldering to be widely applicable within practices of maintenance and repair throughout a vast range of fields, from plumbing to medical, and the crafts.

13. **BLU TACK**
Blu-tack is a pliable, semi-elastic, reusable, putty-like, pressure-sensitive adhesive most commonly used to attach lightweight objects to dry surfaces. It was inadvertently developed in 1970 by a sealant manufacturer.

14. **SPUN YARN**
From the source of strength in pulleys to the tension force within bow saws, yarn has been the fundamental structural backbone of many of the tools and systems that have enabled fixing for centuries. Made up of a number of single fibers, yarn is wonderfully flexible yet incredibly strong.