

Secret of one of world's toughest materials uncovered

A team of scientists led by Nanyang Technological University (NTU Singapore) and Rice University in the US, has uncovered the key to the outstanding toughness of hexagonal boron nitride (h-BN). It can withstand ten times the amount of force that graphene can, which is known as one of the toughest materials on Earth.

A 2D material with a thickness of just one atom, h-BN is used as a protective layer in (2D) electronics, as it insulates against electricity and withstands temperatures of up to 1000 °C. It is also included by nearly all leading producers of cosmetics in their products, due to its ability to absorb excess facial sebum and disperse pigment evenly.

The NTU and Rice scientists said their new understanding of the compound's unique properties paved the way to designing new flexible materials for electronics.