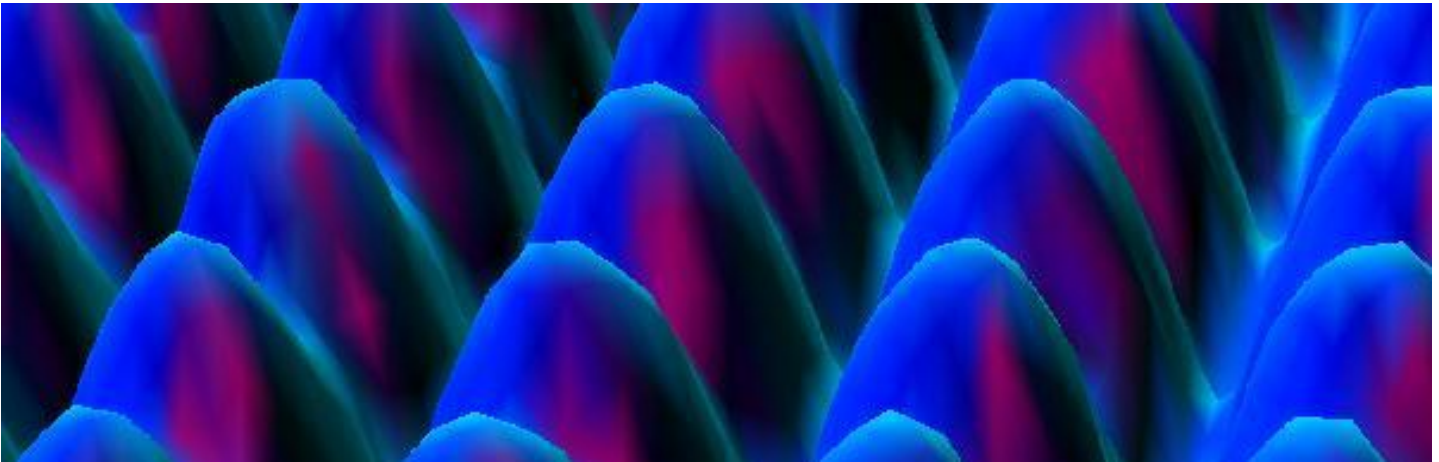


## Covalent bonding is at the heart of what makes Sentry outperform other so called similar products.



Sentry Shield Coatings are so named for the science at their heart. Sentry coatings not only use covalent and ionic molecular bonds to link together the nano particles used in the surface coatings themselves but also to link the coatings to the substrate shielding the substrate from harm. Covalent bonds are the strongest of all chemical bonds. They link the atoms together in many molecules and are the basis for most of the stable substances we know such as water and oxygen. When large structures are bound together with covalent and ionic bonds they form very hard structures. The best known example of this is the diamond which is made up of covalently bonded carbon atoms. Another example is quartz made up of covalently bound silicon dioxide.

The covalent and ionic bonding between the nano particles gives the coating unparalleled hardness; and the bonding between the coating and the substrate “welds” the substrate and the coating together as a single structure providing unsurpassed adhesion. In fact, even using the word “adhesion” isn’t quite correct when the coating and substrate are one. Maybe we could make the point with more clarity if we say that the coating and substrate form a “union”.

The use of nano-sized quartz particles means that the surface is more completely covered and protected. A traditional coating observed under a microscope would reveal voids in the surface allowing moisture penetration and dirt build-up. Sentry coatings compared under the same microscope will reveal holes the size of pinholes compared to the beach ball sized holes of traditional coatings.

Sentry Shield Coatings are 21<sup>st</sup> century coatings which are based on nano technology but are also “beyond nano”. This is what gives them superior performance and longevity. Sentry Shield Coatings extend the life of equipment, machinery, buildings and objects – they protect, preserve and enhance your assets.