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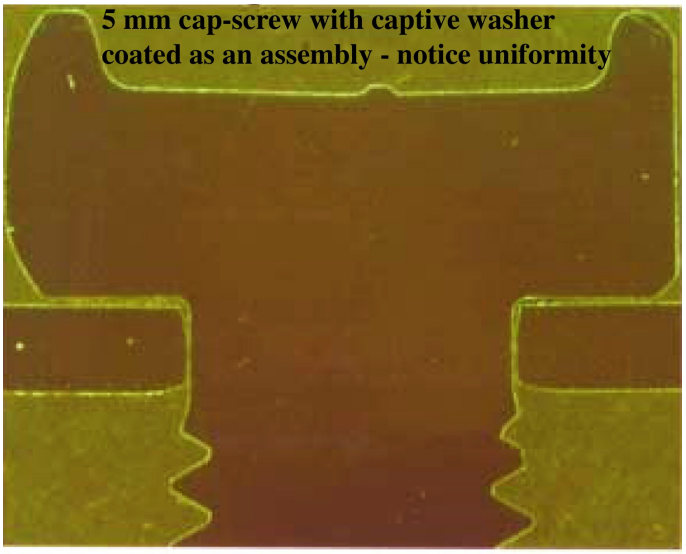
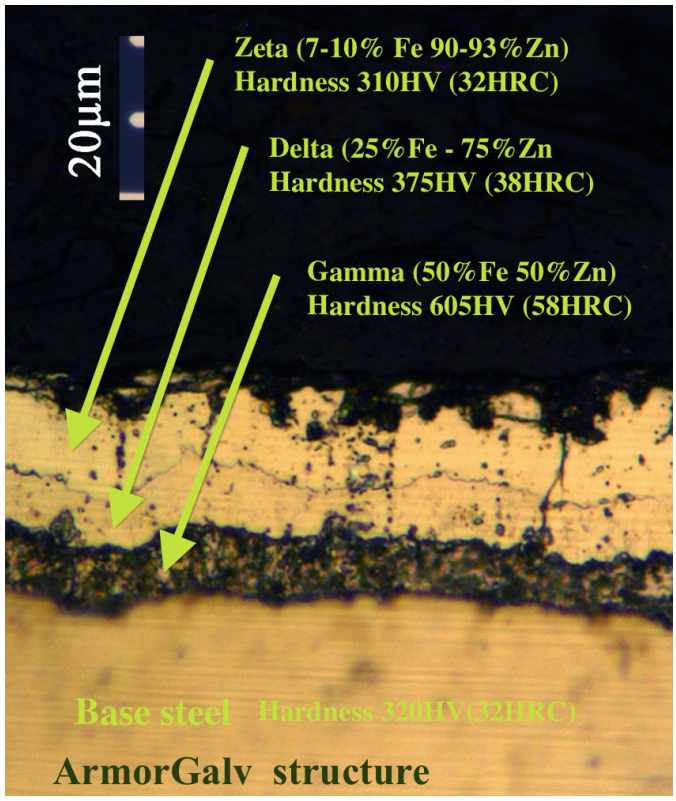
ArmorGalv and fastener over-tapping

ArmorGalv is not a coating but rather a metallurgical conversion process. The ArmorGalv technology creates a layer of zinc/iron alloy on the surface of the fastener by diffusing atoms of zinc into the structure of the steel in a process called "Thermal Diffusion".

The resulting structure is hard and, in most cases, is actually stronger than the base metal it is applied to. Following is a cross section of ArmorGalv protected steel. As you can see, the hardness of the base steel is 32HRC while the ArmorGalv alloy varies in hardness between 59HRC and 32HRC.

This means that if we over-tap a fastener and fill the removed material with a layer of ArmorGalv alloy, we do not weaken the fastener or reduce it's resistance to shear or tension, but may, in fact, enhance the fastener's strength.





As can be seen from the above cross section of a screw, the ArmorGalv layer is very uniform, precise and controlled.
The conclusion is that, if we over-tap a fastener and replace the removed material with ArmorGalv, we will not only retain the strength of the fastener, but in most cases, we may actually enhance it.
Since ArmorGalv-protected carbon steel has out-performed 316 stainless in salt spray tests, we believe that this is the solution to the Oil Industry's NO OVER-TAP problem.

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