General considerations

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By considering these directions in your preparations and application, the WMV coating systems will yield the best results

1. WMV coatings can form a complete bond with following materials: almost all (stainless) steel types, and copper alloys. Hardened steel exceeding HRc 50 or nitrided steel could partially impede the full bond capability, but still offer an acceptable bond in most cases. In these cases we recommend to reduce the coating thickness. We advise against plating aluminium with WMV coatings.

2. When the material to be treated is not new, a complete bond could be harder to acquire. Absorbed foreign particles (especially silicons or organic materials such as plastics) are mainly the cause of this. Grinding to a depth of 40 µm may remedy this. The Lunac coatings are able to replace this lost material completely.

3. Some less-homogeneous (such as cast iron), rough or polluted materials (see 2) can cause the formation of (shallow) dimples. Although as the steel is ground smoother, this chance decreases : R_a < 0.22 µm /8.7 mmil, R_z < 2 µm /79 mmil.

4. Lunac 1 and Lunac 2hc+ generally possess high chemical resistance to most weather conditions, acids and alkalis. Lunac 1 and 2(hc)+ are not well resistant to oxidizing (acidic) environments such as nitric acid or acids at high temperatures. In a corrosive environment copper(alloy) or to a lesser extent stainless steel interfaces could slowly dissolve a Lunac coating. Lunac 2(hc)+ will tarnish in a corrosive environment. Lunac 1 and 2+ are able to seal most materials without any pore or crack. However, cast iron, steel with micro defects or once rusted steel parts (even after being etched / sand blasted or ground) could be hard to seal completely.

5. Flawless, smooth surfaces can be obtained with the Lunac 1 flow-polish effect, ranging from R_a = 0.02 µm / 0.79 mmil to even 0.005 µm / 0.20 mmil. To achieve this, the surface to be treated must have a maximum roughness of R_a = 0.25 µm / 9.84 mmil at R_z = 2 µm / 78.7 mmil and not contain superficial material defects.

6. The coating thickness of both Lunac 1 & 2+ is generally 35-80 µm /1.37-3.15 mil or 120 µm/4.72 mil in the case of Lunac 2+ duplex. Thicker coatings can be applied (up to 350 µm /13.78 mil). However, thicker coating are more vulnerable (especially on sharp edges). The maximum elongation of hardened Lunac 1 is 0,11% and Lunac 2+ 0,28%.

7. In case of hard coatings, thicker than 45 µm/ 1.77 mil (including Lunac), the chance of complete penetration through the coating to the softer underlying material decreases significantly with (dynamic) point- or line-loading.

8. Possible post-machining of Lunac 2+ can only be fulfilled by wet CBN or diamond grinding or in the case of Lunac 1, by regular wet corundum grinding, both with exhaust ventilation.

9. Especially stainless steel could slightly deform due to the Lunac hardening temperature of mostly 315°C/599° F.

10. Especially hard plastics, such as PA, PVC, PET or PC could occasionally damage a Lunac surface, mainly if solidifying on a Lunac surface without prior rinsing, or operating a machine without proper preheating.

11. Polished Lunac 1 should only be cleaned with non-abrasive cleaners such as brass tools.

The above considerations formulate the basis of our extensive technical support. If Lunac coatings need to resist severe (corrosive or mechanical) conditions, we recommend conducting a test for a longer period first. If Lunac coatings need additional machining or will be exposed to not yet mentioned as well as special conditions, always contact WMV first. Side-effects that we are not yet aware of could still occur. If necessary the WMV laboratory could offer additional support by means of an experiment.

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