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PILOT TEST REPORT:
SYNERGY ADDITIVE MANUFACTURING
PRODUCTION RESEARCH

NANO-CLEAR INDUSTRIAL COATING FOR SYNERGY ADDITIVE MANUFACTURING

Synergy Additive Manufacturing
Clinton Township, Michigan

Industrial Customer:
Synergy Additive Manufacturing
Research & Development
POC: Matt Stackpoole

Project:
Pilot program to use coated test panels with Nano-Clear® Industrial (**NCI**) for validation of properties when laser strikes occur.

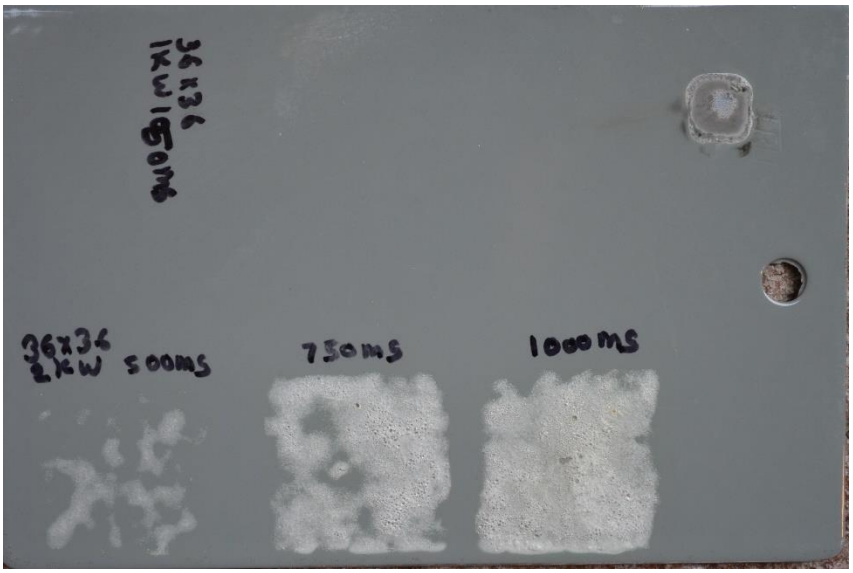
Project Location:
Clinton Township, Michigan

Applicator:
Strategic Visionary Solutions LLC
Lenox Township, Michigan
POC: Denny Haag

Coating Formulation:
Nano-Clear® Industrial (**NCI**) coating (4H pencil hardness)

Application System:
Commercial (HVLP) spray gun for coating panels

Date:
Application: June 2017
90F (average) sunny, hot, humid



PROJECT OVERVIEW:
Synergy Prototype Stamping wanted to evaluate a protective coating on surfaces that would at times be subjected to their laser testing and manufacturing. A series of test panels sprayed with a 3-4 mil coating of Nano-Clear Industrial (**NCI**) during June 2017 was used for the evaluation.

PURPOSE OF THE TEST:
The purpose of the testing was for validation of the protective qualities of **NCI** from laser output which also replicated atmospheric UV damage. The test panels were tested with a 36 X 36 laser beam ranging from 1 KW through 2KW. The laser was controlled in a test environment for safety purposes. Three separate laser tests were conducted on the final test panel. The first for a full second replicated 500 years of UV damage, the second for ¾ of a second replicated 250 years of UV damage and the third for ½ second replicated 100 years of UV damage. The UV damage for testing is based upon 24 hour/day direct sunlight over the noted time frames with full ozone and other atmospheric events. All three tests exceeded expectations with the coating showing various stages of surface damage but no loss of adhesion or protection for the substrate. The result was that the NCI coating was as good or better than a 100-year coating. This severe test provides affirmation on reduction of maintenance costs and preservation of the assets from corrosion and UV damage by performance of **NCI** coatings.