

**SEM images with EDS spectra of basecoats cured at 450 F degrees / 2 hours:
the coatings applied from lithium doped potassium silicate- based slurries with Al particles and
with addition of Ce oxide cure accelerator**

Fig. 1a Top view (magnification X1000)

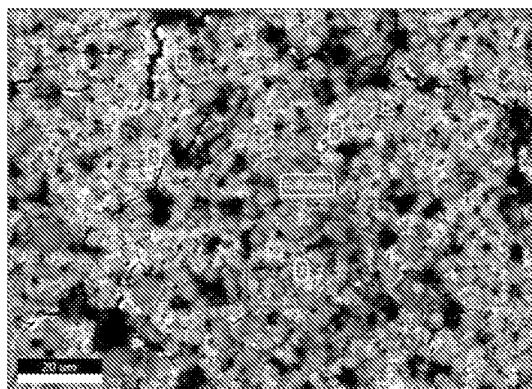


Fig. 1c EDS spectra

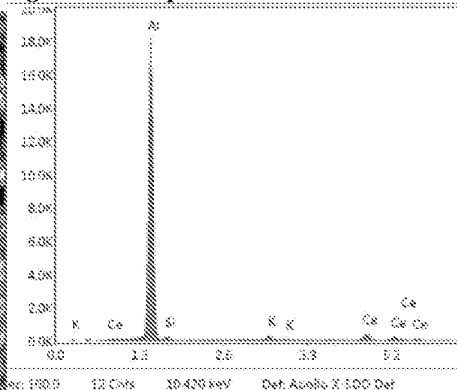


Fig. 1b Cross-section (magnification X1000)

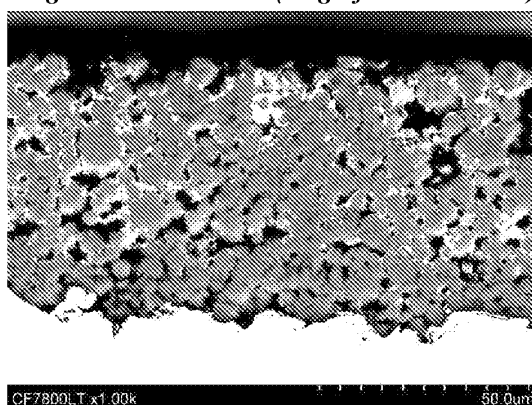
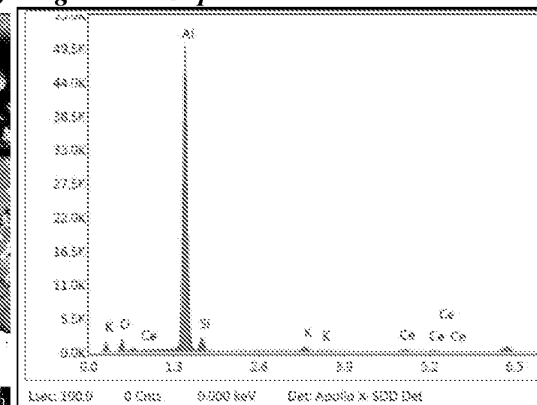


Fig. 1d EDS spectra



**SEM images of Li-doped K Silicate based coatings cured at 450 degrees F / 2 hours with
addition of Ce oxide cure accelerator and burnished with Al₂O₃ media (magnification X1000)**

Fig 2a Top view

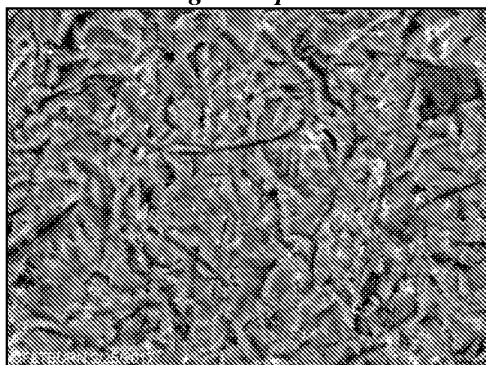
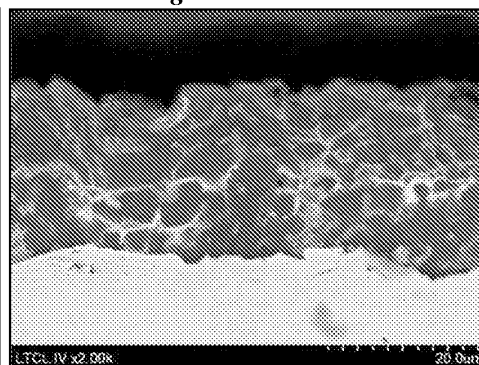
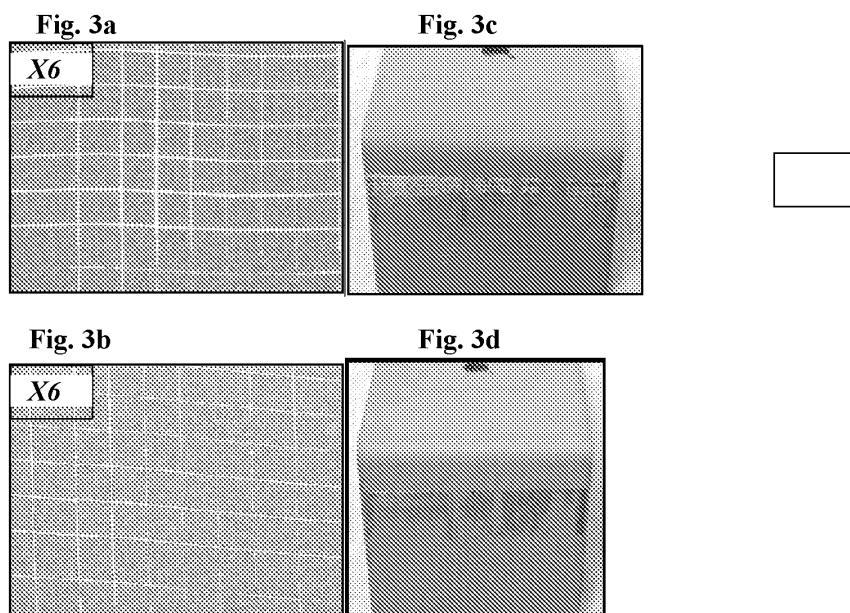


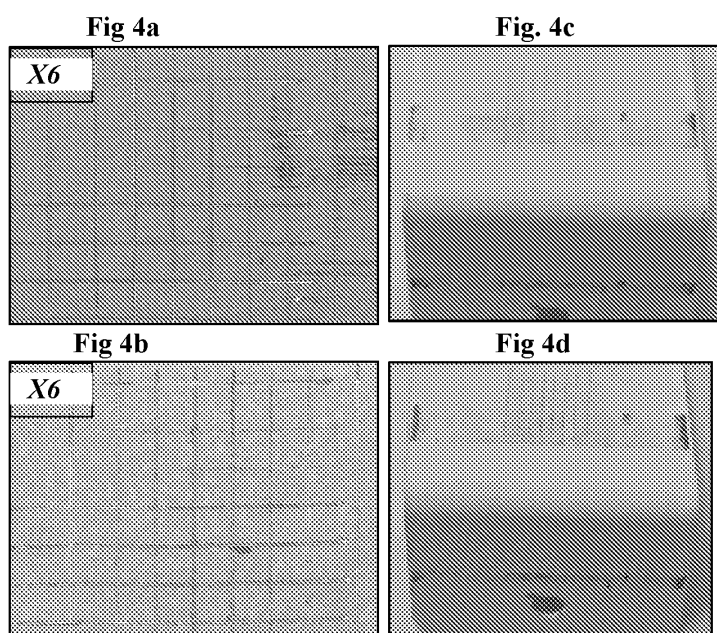
Fig 2b Cross-section



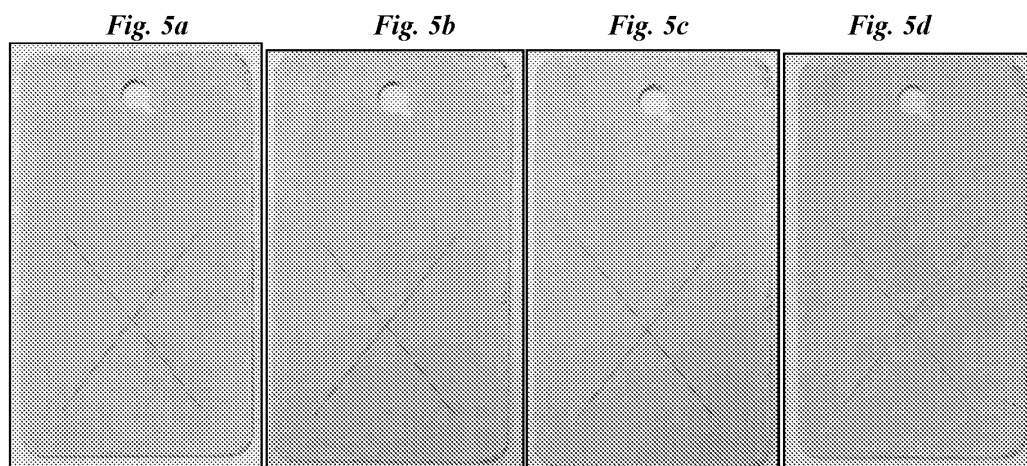
Coating system of Example 1, cured at 450 degrees F / 2 hours and exposed to the Boiling water test: Cross - hatch (magnification X6) and Bend Adhesion tests



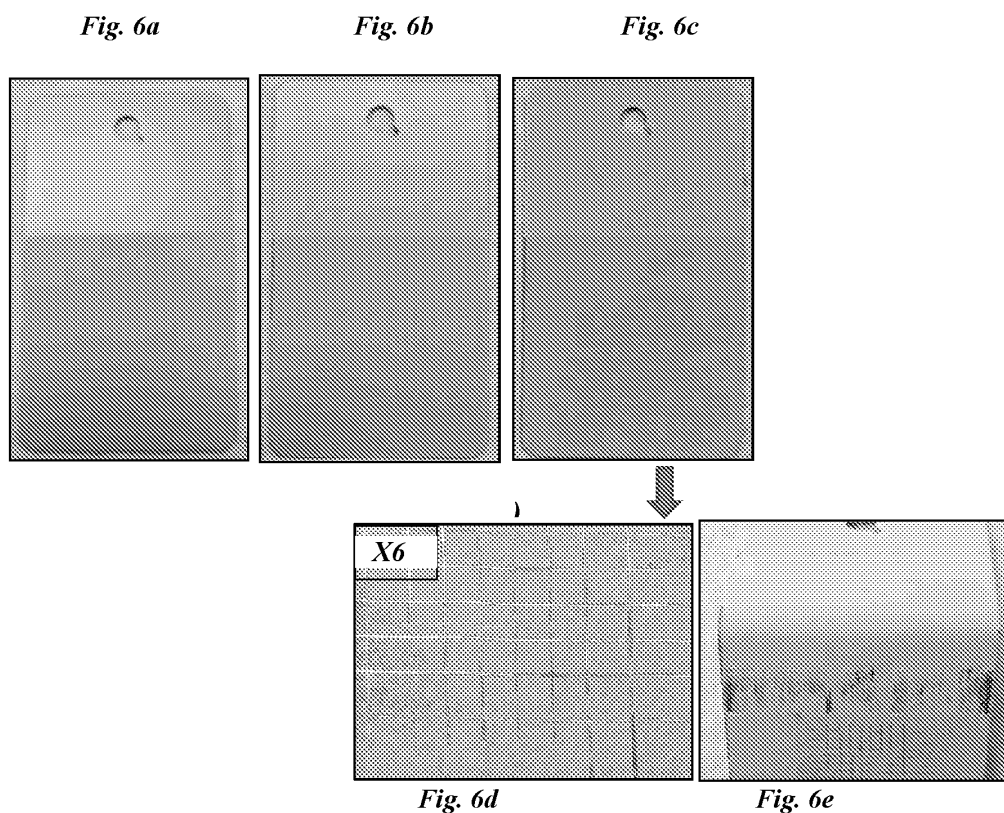
Coating system of Example 3, cured at 450 degrees F / 2 hours and exposed to the Boiling water test: Cross - hatch (magnification X6) and Bend Adhesion tests



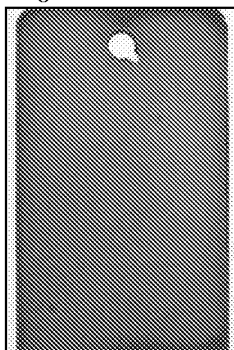
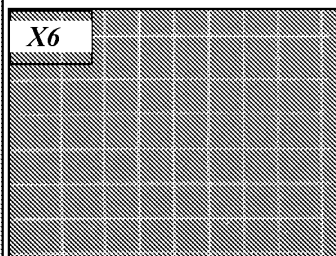
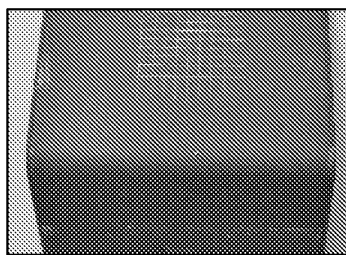
*Coating system of Example 3, cured at 450 degrees F / 2 hours after Salt Spray exposure:
after 800 hours (a), 1,248 hours (b), 1,624 hours (c), and 2,870 hours (d)*



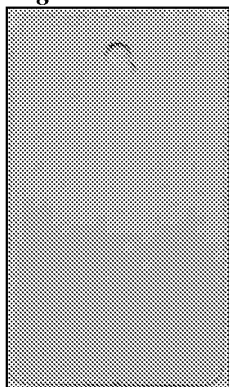
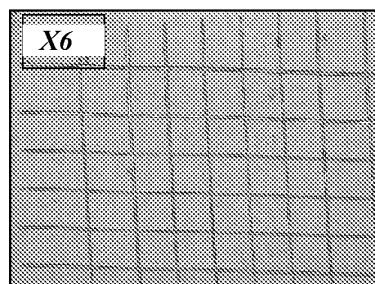
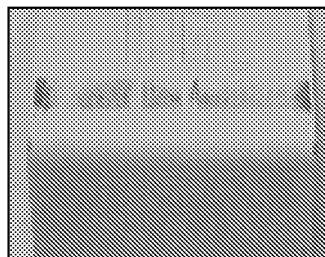
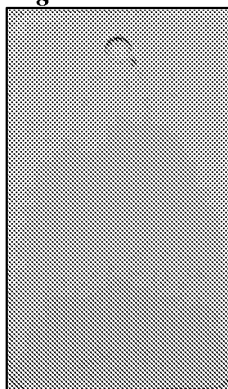
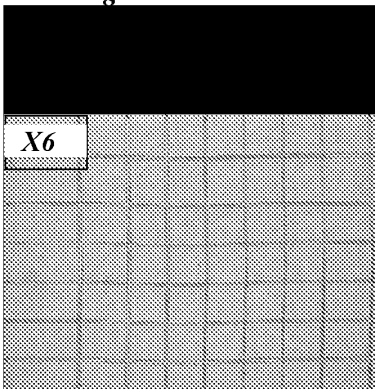
*Coating system of Example 3, cured at 450 degrees F / 2 hours after immersion in NaCl
solution: after 100 hours (a), 240 hours, 432 hours (c) followed by adhesion tests (d)*



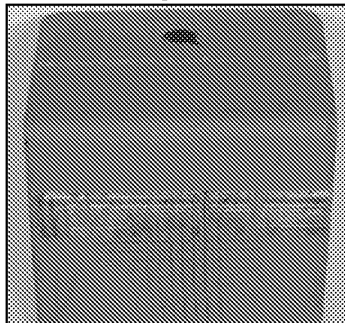
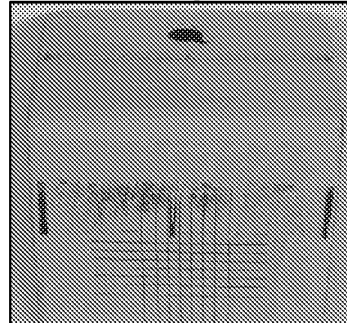
Coating system of Example 1, cured at 450 degrees F / 2 hours and exposed to the immersion in H₂O at 80°C for 100 hours: Visual appearance & Cross - hatch (magnification X6) and Bend Adhesion tests

Fig. 7a*Fig. 7b**Fig. 7c*

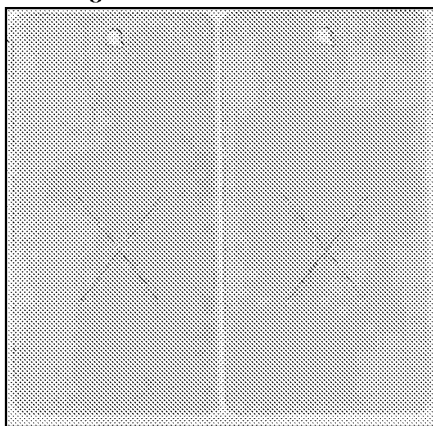
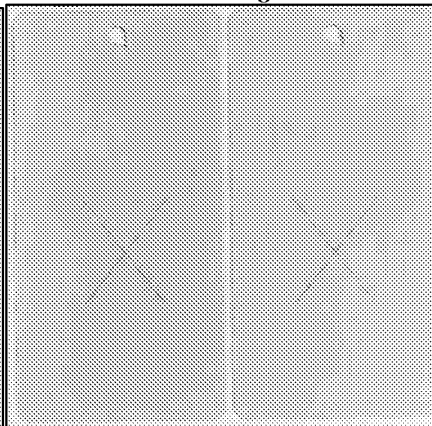
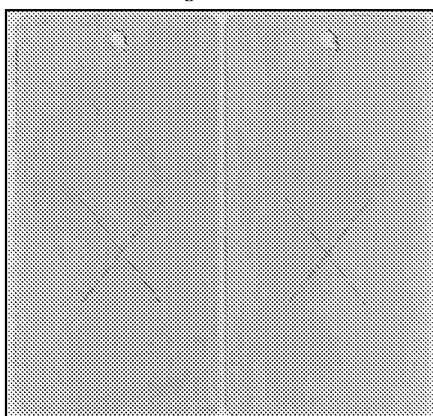
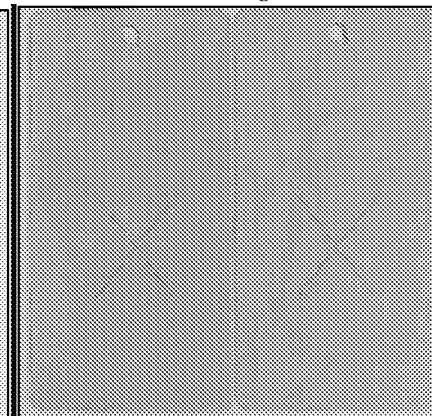
Coating system of Example 3, cured at 450 degrees F / 2 hours and exposed to the immersion in H₂O at 80°C for 100 hours: Visual appearance & Cross - hatch (magnification X6) and Bend Adhesion tests

Fig. 8a*Fig. 8c**Fig. 8d**Fig. 8b**Fig. 8e**Fig. 8f*

Coating systems of Example 8 with Topcoat A (a) and Topcoat B (b), cured at 330 degrees F / 4 hours and exposed to the Boiling water test: Adhesion tests

Fig. 9a*Fig. 9b*

Coating system of Example 9, cured at 330 degrees F / 4 hours after Salt Spray exposure: after 360 hours (a), 528 hours (b), 696 hours (c), and 1,114 hours (d)

Fig. 10a*Fig. 10b**Fig. 10c**Fig. 10d*

Coating systems of Example 8 cured at 330 degrees F / 4 hours and immersed in Skydrol 500 at 160°F for 3 hours: Cross - hatch (magnification X6) and Bend Adhesion tests with Topcoat A and Topcoat B

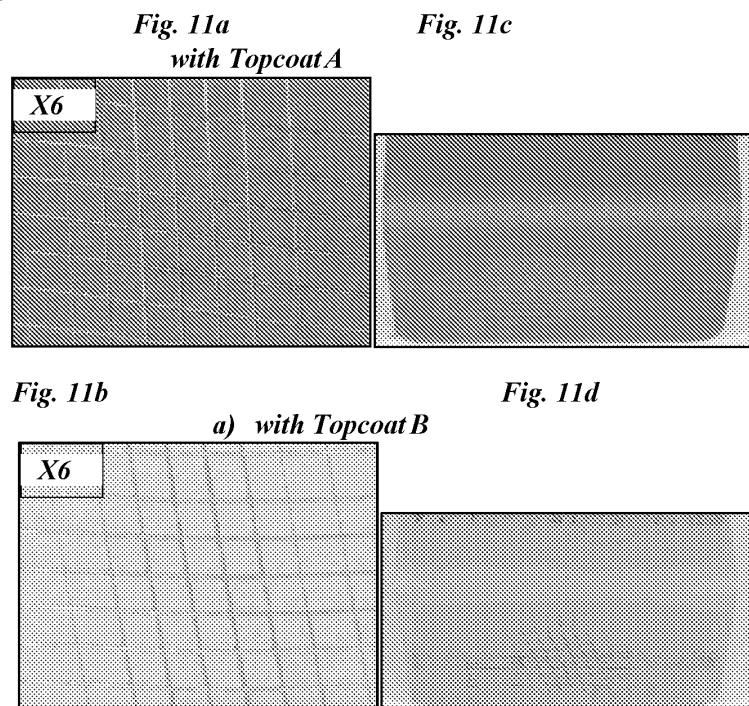


Fig.12 Coating systems of Example 8 cured at 330 degrees F / 2 hours and immersed in Royco 500 at 300°F for 100 hours: Cross - hatch (magnification X6) Adhesion tests with Topcoat A and Topcoat B

