

Development of Liquid Surface Conditioner

*Takaomi NAKAYAMA**⁽¹⁾

*Kensuke SHIMODA**⁽²⁾

*Yasushi TAKAGI**⁽³⁾

*Tadashi MATSUSHITA**⁽⁴⁾

Abstract

Conventional surface conditioners for use during zinc phosphating of auto bodies use a Ti colloid. The Ti colloid is very effective as a surface conditioner, however due to the instability of the colloid, the pH range and quality of water that can be used is limited. As a result of our substantial research on surface conditioners, we have succeeded in developing a completely new and improved surface conditioner. The new surface conditioner utilizes completely different components to the Ti colloid conditioner, exhibits a high degree of stability, and is far more effective in accelerating the phosphating reaction than the conventional conditioner. With the new conditioner it is possible to create extremely fine zinc phosphate crystals which could not have been created with the conventional technology, the zinc phosphating treatment time is shorter, phosphatability of difficult-to-treat substrates is improved and the phosphatability of the inside of box sections in auto bodies is also improved. Furthermore, due to the excellent stability of the new surface conditioner, the effectiveness of the conditioner is not affected by the quality of the water used in the surface conditioner bath.

*⁽¹⁾ Chief researcher, Central Research Laboratories, R & D Center-Chemicals

*^(2,3) Central Research Laboratories, R & D Center-Chemicals

*⁽⁴⁾ Manager, Central Research Laboratories, R & D Center-Chemicals