Surface Treatment Technology for Metal Plastic Working

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Abstract

In this report, we summarize our surface treatment technology for metal plastic working from the past Nihon Parkerizing technical reports. Our lubrication technology has played an important role in metal plastic working industries. However, improvements need to be made to the conventional phosphating and metal soap technology to make it more environmentally-friendly. In order to solve the environmental issues, we have developed an innovative one-step lubrication technology that can shorten the surface treatment process significantly, reduce waste and eliminate wastewater, and allow automatic bath management while keeping the lubrication performance as good as the conventional technology. As a result, we have achieved a significant process cost reduction in surface treatment lines. We also explain the design of our one-step lubrication film based on the conventional two-step phosphating and metal soap film system and our development of evaluation technology to evaluate the plasticity performance of our lubricant.

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