

Transitioning to MoldWiz®

Two Studies in Success: WB-B25NF for BRAKE PADS

WB-B25NF is a proprietary resin solution of polyolefins and organic fatty acids in combination with wetting agents and surfactants in a water vehicle.

The release product is 25% active and has a pH of 10. The release is suitable for use with polyester, epoxy, acrylate and phenolic resins, as well as many types of rubber. This external mold release is ideal for compression molding of friction products.

HISTORY #1: Recently, WB-B25NF was evaluated in the production of Raybestos® automotive brake pads. The external mold release was compared to a competitor's water-based release.

The competitive release is diluted with water at ratios of 20:1 and 32:1 depending on the specific, part, mold, and post painting requirements. In some cases, soda ash is also added to the dilute mix to increase the pH of the release. The brake pad manufacturer believes that this helps reduce buildup on molds and paint adhesion failures, and facilitates easier mold cleaning.

MoldWiz® WB-B25NF was evaluated at three dilutions: 20:1; 32:1 and 40:1. The resulting pH readings were 9.5 (32:1) and 8.6 (40:1). The dilute releases were applied to the hot steel molds by using agricultural (garden) type sprayers.

The phenolic brake pads released well even at the 40:1 dilution range.

In the case of the clam-shell type press molds that were used for some of the tests, it was noted that the flash that typically occurs in these molds was far easier to remove. In general, molds appeared to run cleaner.

AXEL's highly concentrated water-based mold release, MoldWiz® WB-B25NF is designed specifically for molding highly filled resin mixes used in the production of brake pads and linings.

Following the test production cycles, molded pads were tested for paint adhesion and all passed without requiring any special cleaning or preparation.

HISTORY #2

A US manufacturer of epoxy brake pads for automobiles and light trucks, recently tested and converted to AXEL's water-based mold release concentrate, MoldWiz® WB-B25NF.

This manufacturer uses both ceramic and metal fillers in epoxy resin formulations structured to meet the performance requirements for premium brake pads.

Before converting to AXEL, this manufacturer used a competitor's water-based mold release concentrate which they diluted with water 10:1 for spray application. For particularly difficult release conditions, like production of ceramic filled brake pads for pick-up trucks, release was generally brushed on full strength prior to each molding.

MoldWiz® WB-B25NF was diluted to 9:1 for testing on this ceramic brake pad line (remember, in this case the competitor's release was being used full strength).

At the beginning of the evaluation, the steel molds were quite dirty, with lots of resin flash crusted around the

cavities. Because of the difficulty of adequately cleaning these molds online, AXEL's technician resorted to simply brushing the diluted WB-B25NF directly on these molds.

After (2) 7 minute molding cycles on the 400-ton press, the molds actually started to look cleaner; as molding with the dilute WB-B25NF continued, parts released with ease, molds got cleaner, and flash easily came free.

The customer was delighted with the efficiency and economy that MoldWiz® WB-B25 offered and subsequently converted his mold release business to AXEL.



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