

HYDREX®

Magnesium Aluminosilicate
for Board Applications



EVONIK SILICATE SOLUTIONS FOR THE PAPER MARKET

Evonik silicate solutions for the paper market are providing superior performance by improving quality and generating cost savings for board applications.

HYDREX® magnesium aluminosilicates provide folding box-board, white-top and other board applications high brightness and opacity to drive the overall appearance of the package including a significant reduction in surface mottling. In addition to reducing the need for chemical pulp, the requirement for optical brighteners is also decreased.

HYDREX® magnesium aluminosilicates are manufactured by precipitating sodium silicate solution with a mixture of magnesium and aluminum sulfate creating a unique pore structure which provides the board with a significant number of light scattering interfaces between air, pigment and fiber. As a result, HYDREX® magnesium aluminosilicates have excellent light scattering power increasing paper opacity and brightness as well as imparting a desired bluish-white shade.

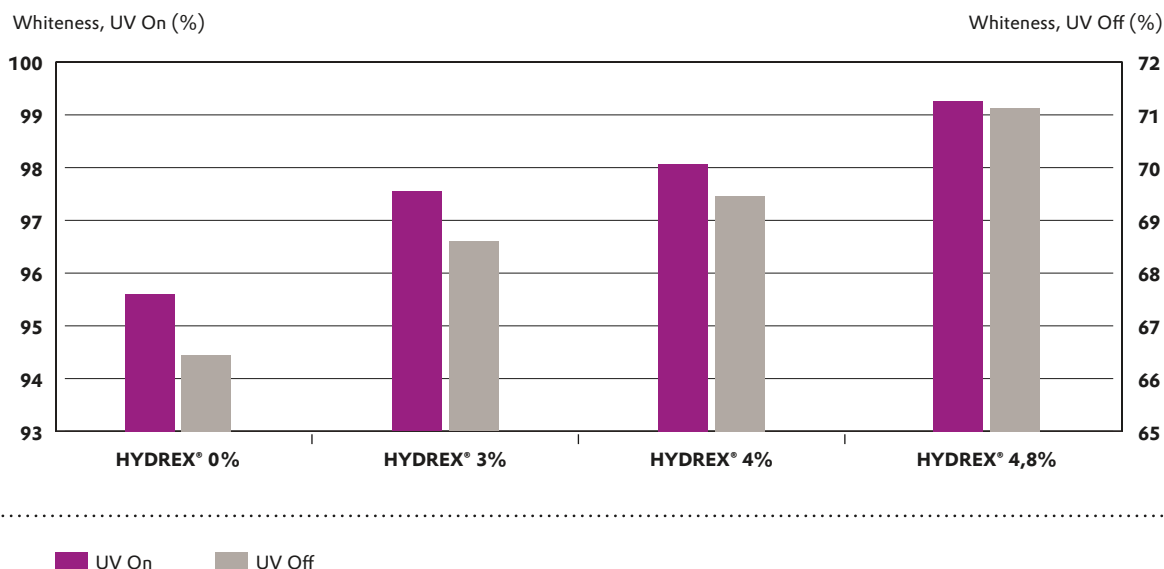
Through advanced product technology and custom application development and support, we provide the optimal solution for your next board project.

END USE BENEFITS

- Increased board brightness, whiteness and bluish-white shade
- Reduced mottling and board quality variation due to improved top layer coverage
- Improved bulk and stiffness
- Improved printability in uncoated grades
- Reduced need for chemical pulp

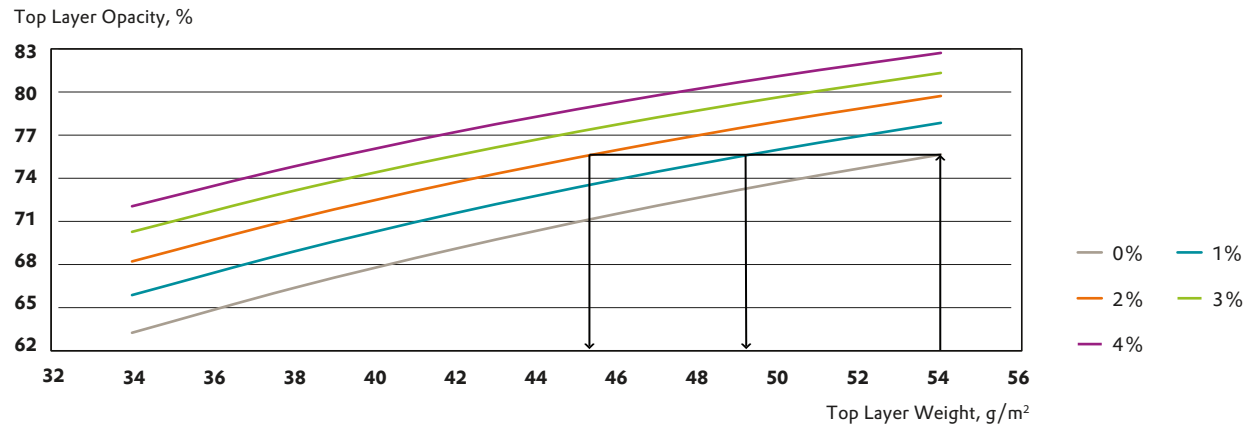
Technical Information

Figure 1: Whiteness



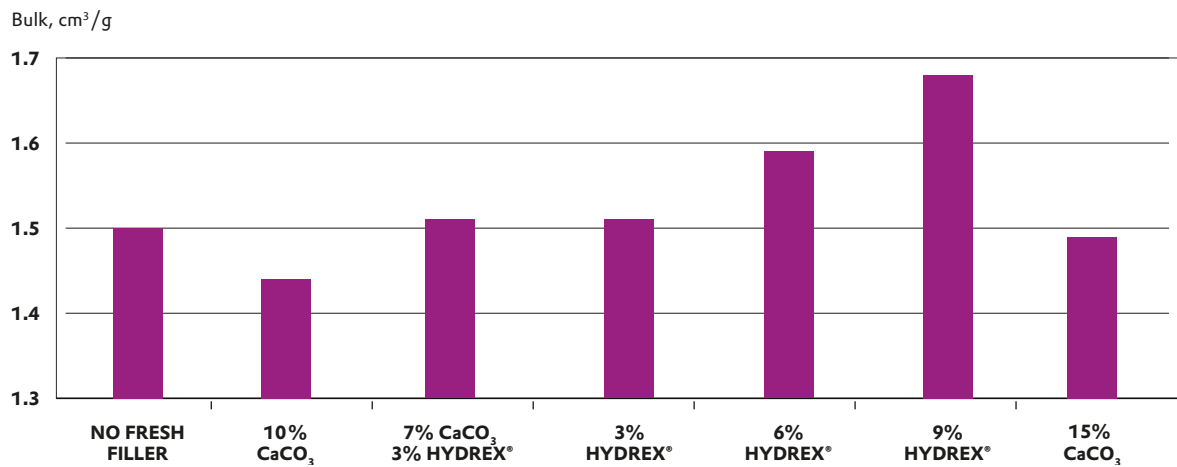
HYDREX® magnesium aluminosilicate increases board whiteness resulting in improving quality and cost.

Figure 2: Top Layer Opacity



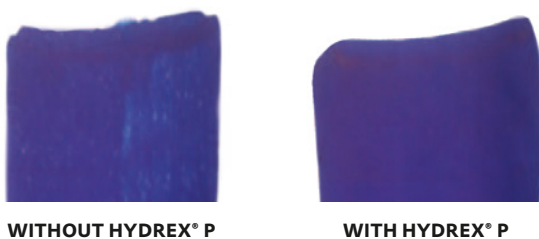
Top layer opacity can be increased approximately 2.5 units with the addition of 1% HYDREX® magnesium aluminosilicate while maintaining the top layer basis weight. Alternatively, top ply basis weight can be reduced and maintain opacity with the possibility to achieve lower manufacturing cost as well as lower pulp usage.

Figure 3: Top Ply Bulk



HYDREX® magnesium aluminosilicate improves bulk and stiffness in liner and folding boxboards while calcium carbonate actually decreases bulk values.

Figure 4: Print Quality



HYDREX® magnesium aluminosilicate improves ink absorption and immobilizes ink to the surface layer preventing ink penetration deep in z-direction. As a result, print density is higher and ink is absorbed evenly to the liner surface giving uniform color and low level of print mottling.

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipients of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

**Europe / Middle-East /
Africa / Latin America**

Evonik Resource Efficiency GmbH
Business Line Silica
Rodenbacher Chaussee 4
63457 Hanau-Wolfgang
Germany
phone +49 6181 59-12532
fax +49 6181 59-712532
ask-si@evonik.com
www.evonik.com

North America

Evonik Corporation
Business Line Silica
299 Jefferson Road
Parsippany, NJ 07054-0677
USA
phone +1 800 233-8052
fax +1 973 929-8502
asi-si-nafta@evonik.com

Asia / Pacific

Evonik (SEA) Pte. Ltd.
Business Line Silica
3 International Business Park
#07-18 Nordic European Centre
Singapore 609927
phone +65 6809-6877
fax +65 6809-6677
ask-si-asia@evonik.com

**More silica grades
from Evonik see also**
www.aerosil.com
www.sipernat.com