

Nordmeccanica and The Dow Chemical Company present:
Technical Sessions 2009 - April 22nd
Celebrating Earth DAY



Earth Day Demonstration Summary

Films, inks, and solventless adhesives were combined to demonstrate a packaging lamination that could be made using bio-based films, environmentally friendly inks, and a high bio-content solventless adhesive. Solventless lamination has been shown in LCI studies to emit 75% less CO₂ and use 80% less energy than solvent-based adhesives.

The laminator was a Nordmeccanica Super Simplex. Line speed was 700 feet per minute. This is less than the maximum line speed for this unit (1300 fpm), but the materials used required this for optimal appearance and performance. Use of in line corona treatment would improve appearance at higher line speeds.

The adhesive was Mor-Free™ L75-168/C-139, a solventless adhesive with 55% renewable material content.

The printed web was from Innovia. Innovia's award-winning sustainable, bio-degradable and compostable film, Natureflex™ 75NKR was used for the Siegwark and Sun Chemical print jobs. Cellophane K250HB20 was used for the Environmental Inks job. Both films are made from over 90% renewable material.

The sealant film was 2 mil EarthFirst® from Plastic Suppliers, Inc. EarthFirst brand films. This film is made from a near carbon neutral Ingeo™ polymer from NatureWorks LLC.

The Environmental Inks products shown were Envirolam™ waterborne inks. These inks have VOC content of 1.5% or less.

Siegwerk demonstrated its FL-1331 ink system that is a water-based flexographic lamination ink system that has run successfully on a variety of chemically and corona-treated substrates and shows excellent lamination bonds with water-based, solvent-based, and 100% solids adhesives.

Sun Chemical SunStrato™ Flexomax® ink was used because it exhibits high lamination bond strength (500 grams inch+) and exceptional printability on a wide range of substrates and suitability with a wide range of laminating adhesives.