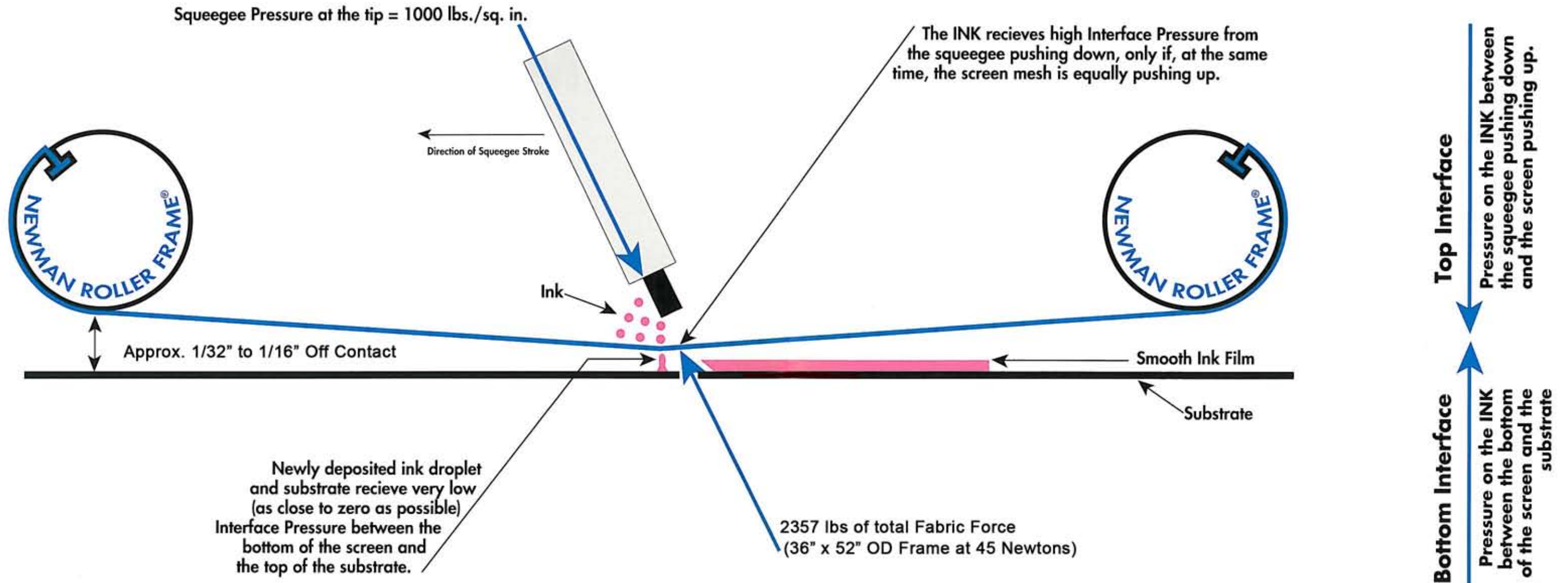


# Newman Roller Mesh<sup>®</sup> with higher strength Filaments and more Durability

## 45 NEWTON Printing — Gains Control of Interface Pressures on Both Top and Bottom of the Screen



The ultra high screen tensions provide the opportunity to control the Interface Pressure on the ink and substrate **SEPARATELY**. The goal for achieving the fastest and most accurate printing is to be able to vary the pressure on the ink from low to high (depending upon the desired ink film thickness), while always maintaining low or near zero pressure on the substrate.

Squeegee pressure, technically defined means— Interface Pressure on the **INK**.

There is very little or no squeegee pressure (Interface Pressure) on the ink unless the screen mesh can push back up

with a near equal and opposite force. If the pressure of the screen mesh trying to push upward is low, then the substrate and the ink that is trapped under the bottom of the screen receives the majority of the squeegee force instead of the ink on the *top side* of the screen where the force should be.

This results in smashed dots and lines. Solid areas then have a modeled and uneven thickness and/or color, as well as stringers and static lines. Because of the smashing, ink builds up on the bottom of the screen which further degrades the image.

Control of the Interface Pressures allows hydraulic control of ink to vary from light to heavy while the substrate Interface Pressure remains as close to zero as possible. This permits the ink to flow out as engineered uninfluenced by extraneous external pressure from the bottom of the screen. Halftone dots and line widths will thereby print extremely close to their actual size, and ink film thicknesses (and hence color) may be varied accordingly from thin to heavy with one mesh count. This eliminates the over-reliance on the size of the mesh aperture as the major metering device to control ink deposit.

The tension in the screen is the dominate control point for the screen printing process. The flatness and trueness of the printing press or manual machine runs close behind. A printing plate can not print any better than the quality of the machine; and, a machine can not print any better than the quality of its printing plate.

*Excerpts from a continuous series of technical seminars and lectures by Don Newman from 1981-1991.*