It is not easy to directly compare the results between wire wound bar draw downs and gravure results because the 2 methods give different quality results. Bar draw downs are a flood and meter off process while gravure is a pre metered method. Gravure is influenced by the film splitting characteristics of the ink and will show some orange peel type of pattern as well as the cell pattern, these effects do not occur with meter bar draw downs.

No engraved cylinder will release the full cell volume and typically between 10 & 90% of the ink will be retained by the cell. The actual amount retained is influenced by many factors, cell geometry, the substrate, the running speed, impression pressure, cylinder diameter as well as ink viscosity and rheology. As a basic guide a factor of 40% is often used as being a typical amount actually released from the cell.

There is no standard method of quoting cell volumes, CBM (Cubic Billion Microns) can be per sq in. or occasionally per sq m. and can also refer to the theoretical cell volume or the estimated ink volume transferred. Theoretical cell volumes in CBM/sq in. can be converted to cm3/m2 by multiplying by 1.56. and as 1 cm3/m2 equates to a coating thickness of 1 micron, if the sg of the ink is 1 this would be 1 gsm. Allowance must be made for the amount of ink released from the cell as above. Therefore (CBM/sq in. x 40%) x 1.56 = wet film thickness in microns. It is therefore possible to correlate cell volume to the wet film applied by K Bars.

The lowest wet film thickness possible with meter bars is typically 4 microns, inks are normally around 1 - 2 microns dry. Therefore by adjusting the solids content of the ink our K Bars are capable of achieving the same range of dry thicknesses. For gravure and flexo inks our bar nos. 0, 1 & 2 are the most widely used.

For additional information or quotation please contact info@testingmachines.com