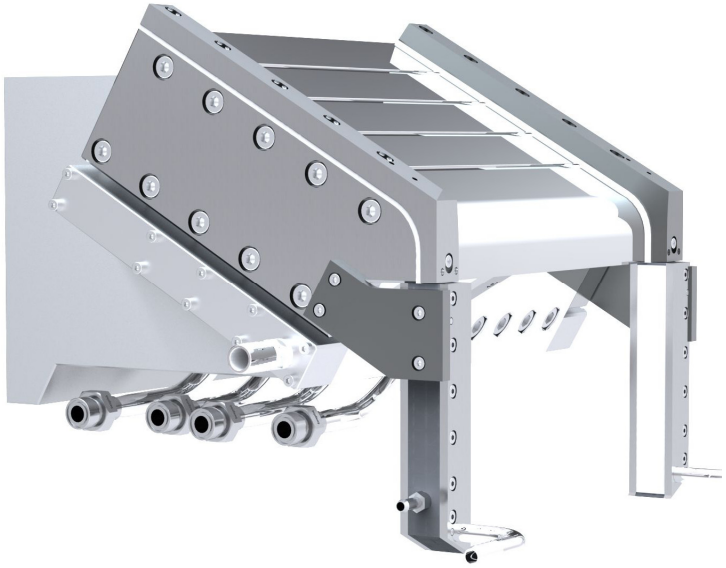
Curtain Slide Dies

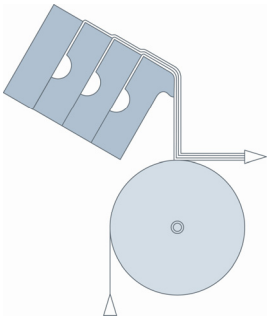
Curtain coating in the slide format is being adopted increasingly by large segments of the coating industry because of its high productivity, multilayer capabilities and robustness with respect to web disturbances. The curtain coating concept is simple enough to allow a liquid layer falling from a die edge to impinge on a moving web. However, the realization of excellent coating quality with this method demands optimal die design coupled with precision fabrication. These are TSE's strengths.

As with all pre-metered coaters, the production of a uniformly distributed flow via the internal flow manifold requires both optimal manifold design and excellent slot depth uniformity. The curtain lip also must be designed to resist irregular wetting and the teapot effect. Furthermore, lip fabrication uniformity is essential for excellent coating uniformity.

TSE has produced successful slide curtain dies for many years and for a wide variety of customers. During this time, TSE has developed the essential supporting technologies and designs associated with capable curtain edge guides, baffles to remove the air boundary layer on the incoming web, coating initiation/ termination functions and devices that protect the liquid curtain from the detrimental effects of air currents.

In short, TSE is the leading supplier of slide curtain dies with this world-class capability.





Four Layer Curtain Slide Die with TSE Troller patented porous-glass Curtain Edge Guides

Range of Application (order of magnitude only)

• Viscosity range:	[mPas]	10 – 5'000
• Surface tension:	[mN/m]	< 40
• Coating speed:	[m/s]	1 – 20
• Wet thickness H_{Wet}:	[µm]	> 5
• Dry thickness H_{dry}:	[µm]	< 1
• Number of layers:		1 – > 10
• Minimum flow rate:	[cm^2/s]	1.0