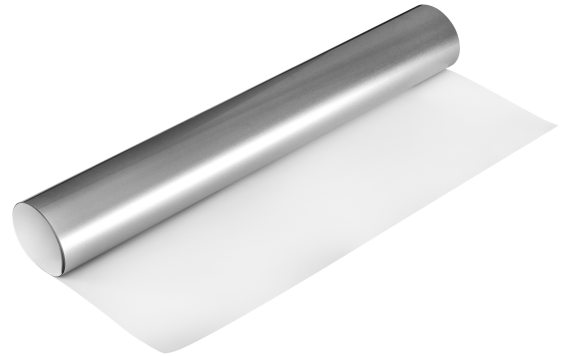


DSI • DEPOSITION SCIENCES, INC.

A LOCKHEED MARTIN COMPANY

FLEXIBLE SPUTTERED COATINGS

Technical Data Sheet



PRODUCT DESCRIPTION

DSI has been producing complex functional thin film coatings on a variety of flexible substrates for over twenty years. Materials include metals and dielectrics to produce multilayer optical coatings. DSI's core enabling technology is an internally-developed batch coating process known as MicroDyn®. MicroDyn utilizes a proprietary magnetron sputtering chamber custom designed for high throughput processing. The unique MicroDyn batch process is not restricted by the line speed limitations and multi-pass transits associated with roll-to-roll systems—it can deposit hundreds of layers just as easily as a single layer. The MicroDyn process balances coating stress on both sides of the substrate, which aids in handling and increases coating durability. Through third parties, DSI also offers complex surface patterning using laser ablation.

APPLICATION

- Sunshade: A proprietary RF-transparent dielectric reflector with low solar heat gain
- Metallization
- Semiconductor multilayers
- Oxide and Nitride multilayers

BENEFITS

- Very thick coatings
- Lower processing temperatures
- More complete reaction of oxides and nitrides
- No rollers touch the front side of the substrate
- High layer count
- Complex coatings
- Custom surface patterning

FEATURES

Typical coating thickness	5-7 μm
Maximum coating thickness	10 μm
Maximum batch size	30-inch by 120-inch panel
Coating material examples	Metals (Al, Cr, Ag, Au) Semiconductors (Si, Ge) Oxides (SiO_2 , Nb_2O_5 , Y_2O_3 , TiO_2 , ZrO_2 , HfO_2) Nitrides (Si_3N_4 , AlN, TiN)
Substrate material examples	PET (Mylar, Hostaphan [®] , Melinex [®]) Polyimide (Kapton [®] , Upilex [®]) Fluoropolymers (Halar [®]) Polyetherimide (Ultem [®]) Polymethylmethacrylate (PMMA, Plexiglas [®] , Europlex [®]) Polycarbonate (Lexan [®] , Makrofol [®]) Polyethylene