

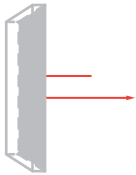
Magnetron Sputtering Coating Features

MS technology equals IBS quality at half the price

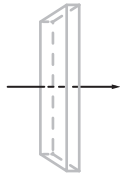
	MS	IBS	E-beam	IAD
Price	●●○○	●●●●	●○○○	●○○○
Quality	★★★★	★★★★	★★☆☆	★★★★

Coating types:

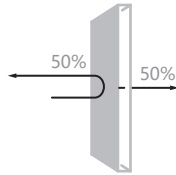
1. Highly reflective



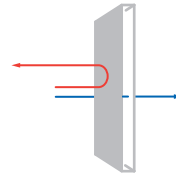
2. Anti-reflective



3. Partially reflective



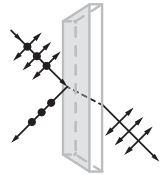
4. Wavelength separating



5. Broadband coatings

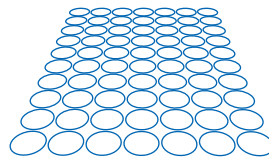


6. Polarizing coatings



Quantities per coating run:

- 1790 pcs. of Ø 12.7 mm (0.5")
- 518 pcs. of Ø 25.4 mm (1")
- 126 pcs. of Ø 50.8 mm (2")
- 42 pcs. of Ø 76.2 mm (3")
- 14 pcs. of Ø 200 mm (~8")



Equipment:

- Evatec Radiance (Switzerland)

Spectral performance:

- 300-3000 nm range
- R max > 99.96%
- AR max < 0.1%

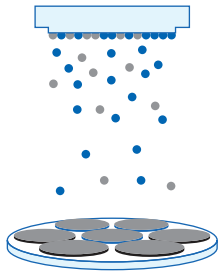
Sputtering targets:

- Nb
- Ta
- Si
- Hf
- Zr
- Al

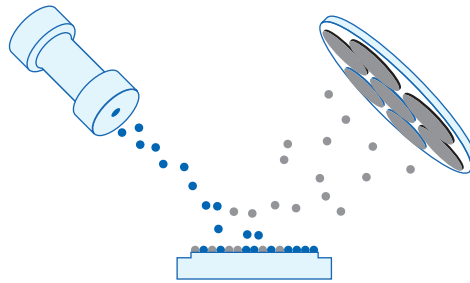


Available Coating Technologies

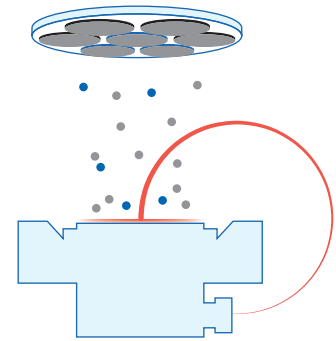
MS



IBS



E-BEAM + IAD



	Magnetron sputtering	Ion beam sputtering	Electron beam evaporation	Ion assisted deposition
Deposition rate	2-6 Å/sec	1-3 Å/sec	>5 Å/sec	1-5 Å/sec
One inch substrates per run	518 pcs.	53 pcs.	90 pcs.	90 pcs.
Thermal conductivity	High	High	Low	Medium
Temperature range during process	20-100°C	20-100°C	200-300°C	20-200°C
Density / Porosity	Near bulk	Near bulk	Porous	Dense
Adhesion / Durability	Excellent	Excellent	Low	Good
Sensitivity to humidity	No	No	Yes	Yes, small
Aging effects	No	No	Yes	Yes, small
Coating spectral accuracy	High	High	Low	Medium
Maximum HR @ 1064 reflectivity	>99.96%	>99.99%	99.5-99.8%	99.9%
Intrinsic stress	200-400 MPa	300-600 MPa	<100 MPa	~100 MPa