
Technical Tip

1.67 High-Index Information and Processing Guide (MR7 and MR10)

1.67 Availability

1.67 – MR7, MR10

Aspheric Semi-Finished Single Vision

70mm Aspheric Single Vision (SRC®,NSRC®)

1.67 – MR7, MR10

Aspheric Semi-Finished Single Vision

75mm Aspheric Single Vision (SRC®,NSRC®)

1.67 – MR7, MR10

Spherical Semi-Finished Single Vision

70mm, 75mm Spherical Single Vision (SRC®,NSRC®)

1.67 A FSV SuperHydro AR

Aspherical Finished Single Vision

65mm, 70mm, 75mm Finished Single Vision

For lens specifications, see the 1.67 High-Index Product Reference Guide on our [website](#).

Technical Tip

Material Characteristics

	MR-7™	MR-10™
Refractive Index (ne)	1.67	1.67
Abbe Number (ve)	31	31
Tg (°C)	85	100
Tintability	Excellent	Good
Impact Resistance	Good	Good
Bayer Rating	2.0	2.0
Tensile Strength	Good	Good
Center Thickness (CT) Recommendation		
Plano	2.0 mm	2.0 mm
-4.00	1.2 mm	1.2 mm
-12.00	1.1 mm	1.1 mm
Key Material Characteristic	Enhanced Tintability	Superior Heat Resistance

Technical Tip

PROCESSING 1.67 High-Index (MR7 and MR10)

Layout/Taping

- Taped lenses should be free of wrinkles, air bubbles, and foreign debris.
- **Do not** leave lenses taped and blocked overnight.

Blocking

- Use 117°F alloy or thermoset plastic wax (blocking medium) and keep temperature as low as possible.
- Allow to cool for 20 minutes prior to generating.

Surfacing

- The labs that process 1.67 will generate it like 1.67 index.
- Minimum thickness is 1.1mm.
- MR10 is advised for high temperature processing due to superior heat resistance.

Fining/Polishing

- The labs that will process 1.67 will fine and polish it with the same pads, pressures and temperatures as 1.67 index.

De-blocking/Washup

- It is advised that the time between polishing and de-blocking does not exceed 15 minutes.
- Standard "shock" de-block with cylindrical tube.
- Wash, rinse and warm air dry with care knowing that the lens is uncoated.

Dip Coating/AR Coating of Uncoated

- It is critical that 1.67 uncoated lenses go through a quality dip coating process that is thermally cured for proper adhesion to the 1.67 material and acts as a quality base coating for the subsequent AR stack.

Backside Spin Coating of SRC Coated 1.67

- If you will not be tinting your lenses VISION EASE recommends AST-1 by Ultra Optics because of the enhanced bonding properties.

Technical Tip

FINISHING 1.67 High-Index (MR7 and MR10)

Blocking

- Apply protective tape to both sides of the lens.
- Use edging blocks that best match the front curve of the lens.
- Use minimum pressure to apply the block to avoid flexing of the lens.

Edging

- The shape of front and backside chucks should be similar to minimize flexing.
- Ensure edger chuck pads are clean.
- Avoid excessive pressure when chucking the lens. Set pressure at the manufacturer's **minimum, soft or recommended** setting for high-index materials.
- Ensure all edging wheels and cutter blades are clean and sharp. Follow manufacturer recommendations for cleaning, re-true, and replacement. Dull wheels or blades increase stress during edging, which may lead to coating cracks.
- Use several slow cuts to reduce lens size.
- Reduce head pressure and flow rate to manufacturer's recommendation.
- Do not edge glass lenses with the same edger as particles in the coolant and on chuck pads increase the risk of scratches.

De-blocking

- Rinse the lens in lukewarm water before handling.
- Twist the block to remove it from the lens. Do not pull it from the surface. Avoid flexing or bending the lens.
- Soaking the lens in soapy water for a few minutes will help to loosen the block prior to removal.
- Aggressive deblocking can cause AR coating to crack.
- Removing the block after inserting the lens in the frame will help to prevent flexing.

Pin Beveling

- Use light pressure when PIN beveling and while edge polishing.

Axis Alignment

- Use lens alignment pliers only if necessary, trying to avoid altogether.

Technical Tip

FINISHING 1.67 High-Index (MR7 and MR10) (Continued)

Drilling

- 1.67 drills best with a sharp burr operated at low speed and minimal to moderate pressure. Twist style drills, cutting less aggressively, often leave subsurface damage.
- Place lens with front towards drill bit and slowly operate drill through lens; back drill bit out of hole often to remove cutting debris that will increase heat damage.
- Be sure to chamfer around the hole when finished drilling (much like safety beveling after edging).
- Note that excessive pressures and speed create damaging heat, which may create eventual fractures.

Tinting

- 1.67 MR7 is advised for tinting. VISION EASE recommends UVNV backside coating and MR7 if your process includes tinting.
- AST1 backside coating is recommended if your process does not include tinting.
- 1.67 is suitable for AR coatings.

For more information, see the Lens Tinting Technical Tips on our [website](#).