Ultra-broadband high damage threshold 45° Mirrors @ 820nm (S and P Polarisation)

Acal BFi’s MLD and MMLD mirrors have been developed for the most challenging ultrafast laser developments, tested and qualified by well known research institutes. They are the results of more than 70 years of expertise in optical components technology and offer a unique combination of ultrabroad bandwidth, very high damage threshold from femtosecond to nanosecond regime and low GDD across the entire bandwidth. All parameters have been fully tested and the surface quality is guaranteed after coating. While the most common optics are flat mirrors from 1 inch to 4 inches, components are available up to 40 inches on request and/or with non flat surfaces, including 90° off-axis parabola which are ideal for compressors. Those coating are available for both the TiSa users (around 820 nm or so) and the users of broadband 1 micron lasers.

Common Features (flat mirrors up to 4 inches):
- Central Wavelength: 820 nm (others on request, broadband ultrafast 1 micron optics also available)
- Angle of incidence: 45° (0° also available)
- Diameter: 1, 2 and 4 inches (up to 40 inches diameter and spherical/aspherical optics also available)
- Diameter tolerance: +0 / - 0.25 mm
- Thickness: 6.35 mm +/- 0.25 mm
- Clear aperture: >90%
- Protective chamfers: < 0.25 mm x 45°
- Substrate material: BK7 (others on request)
- S1 Surface quality: 10/5 S-D, Measured after coating
- S1 Surface flatness: < λ/10 @ 633nm
- S2 surface : commercial polish
- Coating adhesion and durability: per MIL-C-675A norm
- Laser Induced Damage Threshold: see chart for details
  - o LIDT > 8-9 J/cm² at 760-880 nm
  - o LIDT > 2 J/cm² at 720-920 nm
  - o LIDT > 0.6 J/cm² at 760-880 nm
- Typical Reflectivity and GDD: see chart

Benefits:
- > 200 nm bandwidth
- Very high damage threshold
- Low GDD across the complete range
- Surface quality given after coating
- Optimised for both S and P polarisation
- Qualified and selected by leading ultrafast labs

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820nm 45° S-polarisation

820nm 45° P-polarisation

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