**List and characteristics of optical elements required for laser complex mechanical component**

**1.** **Silicone mirror, 7pcs. Characteristics:**

- diameter (d)– 100 mm;

- thickness (д) - 12 mm;

- clear aperture (dсв) – 98 mm;

- number of Fresnel fringes (N) – 2;

- number of Fresnel fringes nominal deviation N (∆N) – 0.5;

- surface roughness (p) – IV;

- protective reflective coating reflection coefficient with L=10,6 µm (с) ≥ 99%;

- protective reflective coating can be applied out of clear aperture on all over the surface;

- edge thickness difference ≤ 0,05 mm;

- grazing angle 450;

- diameter tolerance -0,1 ÷ -0,2 mm and thickness 0 ÷ +0,3 mm;

- damage threshold – 2,5 kW/cm2.

**2. ZnSe plano-convex lens, 1 pcs. Characteristics:**

- фокусное расстояние (f)– 500 mm;

- diameter (d) – 80 mm;

- thickness (д) - 9 mm;

- clear aperture (dсв) – 75 mm;

- number of Fresnel fringes (NAB) – 2;

- number of Fresnel fringes nominal deviation NAB (∆NAB) – 0.5;

- A surface curvature radius (RA) – 701,5 mm;

- B surface curvature radius (RB) - ∞;

- antireflective А, В surfaces residual reflection coefficient with L=10,6 µm (сAB) - ≤ 0.3%;

- surface roughness (p) – IV;

- edge thickness difference ≤ 0,02 mm;

- grazing angle 00;

- diameter tolerance -0,06 ÷ -0,1 mm and thickness 0 ÷ +0,3 mm;

- damage threshold – 5 kW/cm2.

**3.** **Silicone mirror, 1 pcs. Characteristics:**

- diameter (d) – 63 mm;

- thickness (д) - 7 mm;

- clear aperture (dсв) – 61 mm;

- number of Fresnel fringes (N) – 2;

- number of Fresnel fringes nominal deviation N (∆N) – 0.5;

- surface roughness (p) – IV;

- protective reflective coating reflection coefficient with L=10,6 µm (с) ≥ 99%;

- protective reflective coating can be applied out of clear aperture on all over the surface;

- edge thickness difference ≤ 0,05 mm;

- diameter tolerance -0,1 ÷ -0,2 mm and thickness 0 ÷ +0,3 mm;

- grazing angle 450;

- damage threshold – 2,5 kW/cm2.

**4. Silicone mirror, 2 pcs. Characteristics:**

- diameter (d) – 50 mm;

- thickness (д) - 5 mm;

- clear aperture (dсв) – 48 mm;

- number of Fresnel fringes (N) – 1;

- number of Fresnel fringes nominal deviation N (∆N) – 0.5;

- surface roughness (p) – IV;

- protective reflective coating reflection coefficient with L=10,6 µm (с) ≥ 99%;

- protective reflective coating can be applied out of clear aperture on all over the surface;

- edge thickness difference ≤ 0,05 mm;

- diameter tolerance -0,1 ÷ -0,2 mm and thickness 0 ÷ +0,3 mm;

- grazing angle 450;

- damage threshold – 2,5 kW/cm2.

**5. Silicone mirror, 1 pcs. Characteristics:**

- diameter (d) – 30 mm;

- thickness (д) - 5 mm;

- clear aperture (dсв) – 28 mm;

- number of Fresnel fringes (N) – 1;

- number of Fresnel fringes nominal deviation N (∆N) – 0.5;

- surface roughness (p) – IV;

- protective reflective coating reflection coefficient with L=10,6 µm (с) ≥ 99%;

- protective reflective coating can be applied out of clear aperture on all over the surface;

- edge thickness difference ≤ 0,05 mm;

- grazing angle 450;

- diameter tolerance -0,1 ÷ -0,2 mm and thickness 0 ÷ +0,3 mm;

- damage threshold – 2,5 kW/cm2.