

Handling & Operation Manual



Fresnel lenses

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- 1 Always handle lenses with care.
- 2 Never put lenses with the "fresnel side" on a hard surface such as stone, metal, ceramics and glass or similar. Use pads made of soft material, such as rubber or plastic to avoid damage.
- 3 Avoid lens damage during installation, for instance while using mounting clips.
- 4 Avoid direct contact between the lens flange and metal mounting clips due to different thermal expansion in each material; use e.g. PTFE-insulation material of minimum 2 mm thickness.
- 5 Check lens before use on the site for mechanical damage and replace if necessary. For questions, please contact your Fresnel lens supplier.
- 6 Temperature of non-tempered (annealed) lenses shall not exceed 450°C (842°F).
- 7 Temperature of tempered lens shall not exceed 330°C (626°F). Tempering provides added mechanical strength and resistance to thermal shock. If lenses are used above that temperature, the tempering effect will be reduced.
- 8 Do not clean the lens until the lens has cooled down to room temperature.
- 9 Cleaning only with commercially available cleaners and water, without abrasive components.
- 10 When cleaning the back of the lens, always place the lens on a soft surface to avoid damage to the fresnel (see point 2.) Clean only with little force! Tipping the lens over fresnel side can damage the Fresnel lens!
- 11 The minimum distance between the light source and the Fresnel lens, as specified by the headlamp manufacturer, must not be less than specified. Failure to observe the distance may result in overheating and thus damage to the lens.
- 12 Always handle and ship fresnel lenses and lighting fixtures so that no mechanical damage to the lens occurs.
- 13 Use only lamp types as recommended by the lighting fixture manufacturer.
- 14 For fresnel lenses with a diameter of \varnothing 625 mm, only discharge lamps may be used from a lamp output of 18 kW upwards. Failure to do so will void any warranty for the lens.
- 15 The max. mechanical expansion of the lens (α 20/300°C = $4,1 \times 10^{-6} \text{K}^{-1}$) has to be considered in operation as well as for the installation of the lens.

Lighting Technology

Quality Management

14.07.18

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