



## Data Sheet for Calibration Plates hexagonal pattern (Product Id. 20118-20125, 20977-20978)

Characteristic	Ceramic Plates	Glass Plates	Float Glass Plates	Alu/Plastic/Alu Plates
Layer	Chromium + Chromiumoxide	Chromium + Chromiumoxide	not specified	not specified
Material	Nextrema 724-8	B270	Float Glass	Core: Polyethylene type LDPE
Density	2.55 g/cm <sup>3</sup>	2.55 g/cm <sup>3</sup>	2.5 g/cm <sup>3</sup>	0.92 g/cm <sup>3</sup>
Surface roughness	Ra <=0.20µm	not specified	not specified	not specified
Thermal expansion coefficient (20 - 300 °C)	0.01 × 10 <sup>-6</sup> /K	9.5 × 10 <sup>-6</sup> /K	9.1 × 10 <sup>-6</sup> /K	24 × 10 <sup>-6</sup> /K
Refractive index ne	-	1.5251 (546 nm)	-	-
Transmittance	-	0.9 (546 nm)	-	-
Reflection	not specified	ca. 0.05 (546 nm)	not specified	not specified
Water absorption	0%	not specified	not specified	not specified
Hydrolytic class (DIN 12111)	1	3	not specified	not specified

**Calibration marks:**

All plates have 27 × 31 circular marks with 5 finder patterns.

**Plate data:**

Description data for the plate can be used in the camera calibration of HALCON versions higher than HALCON 12 as well as MERLIC.

**Accuracy:**

MVTecs ceramic and glass calibration plates of the sizes 20 mm to 80 mm are manufactured with lithographic technologies derived from semiconductor production. The copy template used within the lithographic technologies has an accuracy of 0.15 µm. The description files of the calibration plates of the sizes 160 mm and 320 mm are individually checked based on a calibrated optical setup.

MVTec provides no third-party certificates for the accuracy of calibration plates. If customers need a third-party certificate it is their responsibility to perform such a certification process at an appropriate authority.