



**Klüber Lubrication
München KG
Report No. KL 0807-445**

Cleanroom[®] Suitable Materials

BARRIERTA KM 192

**Particle (100Cr6 vs. 100Cr6): ISO 4
TVOC (23°C/90°C): ISO -6.6/not tested**

Lubricants & Bearings

DUPLICATE

Qualification Certificate

We hereby certify that the material stated below which was provided by

Klüber Lubrication München KG

Geisenhausenerstr. 7
D-81379 München

has been awarded the Fraunhofer IPA CSM Certificate of Qualification with the report number KL 0807-445.

The tests performed in accordance with CSM procedures included particle emission during the application of frictional stress, outgassing at various temperatures and determination of the ESD value (surface resistance).

Material (Mat.)	BARRIERTA KM 192	
Particle	Ball-on-disc test; Normal force 20 N 100Cr6 vs. 100Cr6 (Lubricant Mat.)	ISO Class 4 (see ISO 14644-1)
Outgassing at 23 °C / 73 °F	TVOC	ISO-AMC Class -6.6 (see ISO 14644-8)
Outgassing at 90 °C / 194 °F	not tested	-
ESD	Surface resistance	1.3 x 10 ³ Ohm

Detailed information regarding the test environment and parameters used can be obtained from the CSM Test report with the number KL 0807-445 issued by the Fraunhofer-Gesellschaft.

The validity of this certificate is indefinite. For more information, visit our website at www.ipa-csm.com.

Stuttgart, Germany, November 9th 2008

i. A. 
Signature project manager



Fraunhofer Institut
Produktionstechnik und
Automatisierung