## Product Information QSense® QSX 313 Copper

The QSense sensors are developed and produced to provide you with stable, reliable and reproducible data. Full performance is ensured through extensive quality controls and guaranteed for one-time use according to the recommendations.

Sensor specifications	
Description	Copper sensor
Top coating material	Copper (Cu) <sup>A</sup>
Surface roughness	< 4 nm RMS <sup>B</sup>
Maximum temperature <sup>c</sup>	150 °C
Usage	Used immediately after opening the inert package, without pre-cleaning. It is sufficient to rinse with water/buffer in situ before measuring. QSense sensors are intended for one-time use only.
Storage	The sensor is delivered in inert atmosphere. Store in a cool, dry place out of light.
Shelf life	Stable at least 12 months from package date in unopened package, see expiry date on package.
Chemical compatibility	Note that copper oxidizes easily and therefore is unstable in both air and water. There is no guarantee that the coating will be stable under all experimental conditions.

Specifications may be subject to change without notice.

A - The chemical composition was confirmed by XPS.

B - Ref. AFM.

C - Sensor oscillates/works at 150 °C in air. Temperatures above 150 °C have not been tested. Note that ambient environment may influence coating behavior. Theoretically, the quartz and the Au coating withstand temperatures up to 573 °C where the quartz undergoes a phase transition altering its piezoelectric properties. The adhesion layers, the electrode and coating materials will migrate with time, and the migration rate is affected by temperature and time.

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