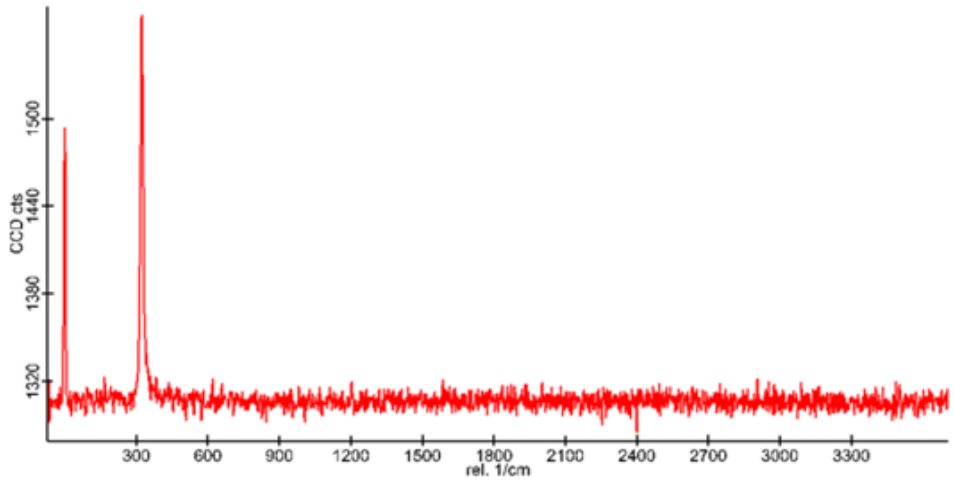
DATA SHEET Raman Grade Calcium Fluoride (CaF2)

CaF2 Raman grade Non-fluorescent calcium fluoride (CaF2) is a specially selected material with transmission range from deep UV to mid IR grade. The properties do not exhibit any fluorescence emission bands which might interfere with Raman spectroscopy application. Fluorescence can cause intense absorption, resulting in energy loss, signal distortion or imaging disorder. The pure **Raman grade** monocrystaline material has the 321cm -1 **Raman** peak. The advantage of Raman grade CaF_2 is that it only has one narrow Raman band frequency range in which most functional groups will not vibrate. This band is less likely to obscure sample features than the more complex Raman spectra of glass and quartz.

A range of products and substrates are made in the CaF2 Raman grade material including optical windows, Coverslips, Microscope slides, optical lenses and prisms.

Raman spectra



UQG (Optics) Ltd. The Norman Industrial Estate, 99-101 Cambridge Road, Milton, Cambridge CB24 6AT. England.
Tel | +00 44 (0) 1223 420329 Fax | +00 44 (0) 1223 420506 Email | info@uqgoptics.com

DATA SHEET Raman Grade Calcium Fluoride (CaF2)

Optical Properties	
Transmission Range	0.13-10μm
Transmittance	>94%@193nm-7.87μm
Refractive Index	1.4288@2.5μm 1.39908@5μm
Reflection Loss	5.4%@5μm(both surfaces)
Absorption Coefficienet	7.8×10-4@2.7μm
Structure	Cubic Crystal System
Cleavage Planes	<111>
Physical Properties	
Density [g/cm3]	3.18
Melting Point [℃]	1420
Thermal Conductivity [W/(m×K)]	9.71 @ 293K
Thermal Expansion [10-6/K]	18.5 @ 273K
Knoop Hardness [kg/mm2]	158.3
Specific Heat Capacity [J/(kg×K)]	854
Dielectric Constant	6.76 @ 1 MHz
Young's Modulus (E) [GPa]	75.8
Shear Modulus(G) [GPa]	33.77
Bulk Modulus(K) [GPa]	82.71
Poisson Coefficient	0.26
Chemical Properties	
Solubility / g/L	0.016g @ 20℃
Molecular Weight / g/mol	78.0748