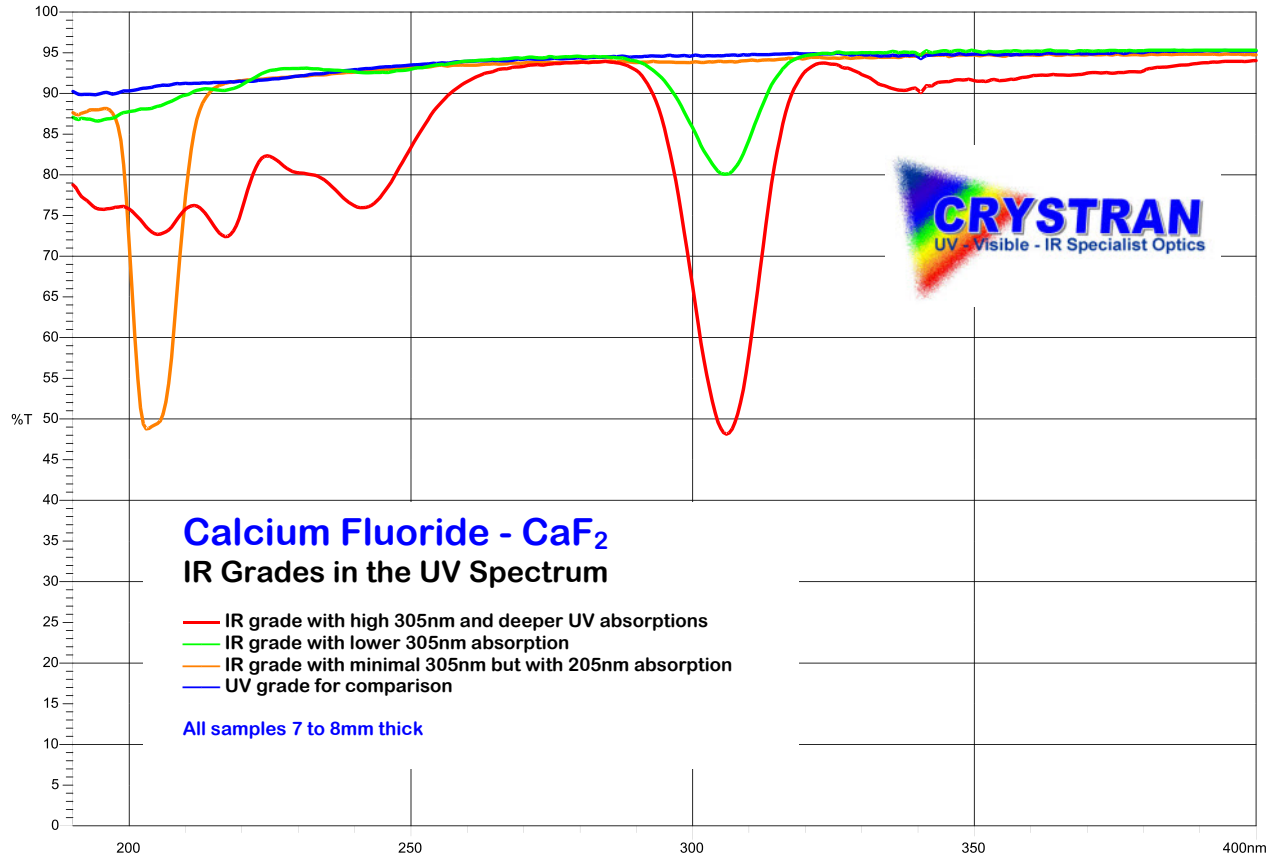
CRYSTRAN'S GUIDE TO CALCIUM FLUORIDE GRADES

Calcium Fluoride is available in several quality grades according to transmission range. All CaF_2 transmits without absorption bands in the infra-red, but for other applications selection must be balanced against cost.

Summary	Grade	Transmission Range	Quality
	Infra-Red Grade	0.40µm to 10.0µm	Medium purity
	UV Grade	0.19µm to 10.0µm	High purity
	VUV Grade	0.13µm to 10.0µm	Very high purity
	Eximer Grade	0.13µm to 10.0µm	Very high purity
	Raman Grade	0.13µm to 10.0µm	Fluorescence free

Infra-Red Grade – 0.4µm to 10µm

Calcium Fluoride crystal traditionally was manufactured by fusing naturally mined CaF_2. More commonly now, medium quality reagent grade material is often used where the most inexpensive material is required. The principal impurities are generally purged further by the crystal growth process but often result in a broad absorption at 0.3µm due primarily to iron, and reduction of transmission at wavelengths shorter than 0.25µm. All Crystran CaF_2 is guaranteed free of absorption bands within the Visible and IR spectrum.



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UV Grade – 0.19µm to 10µm

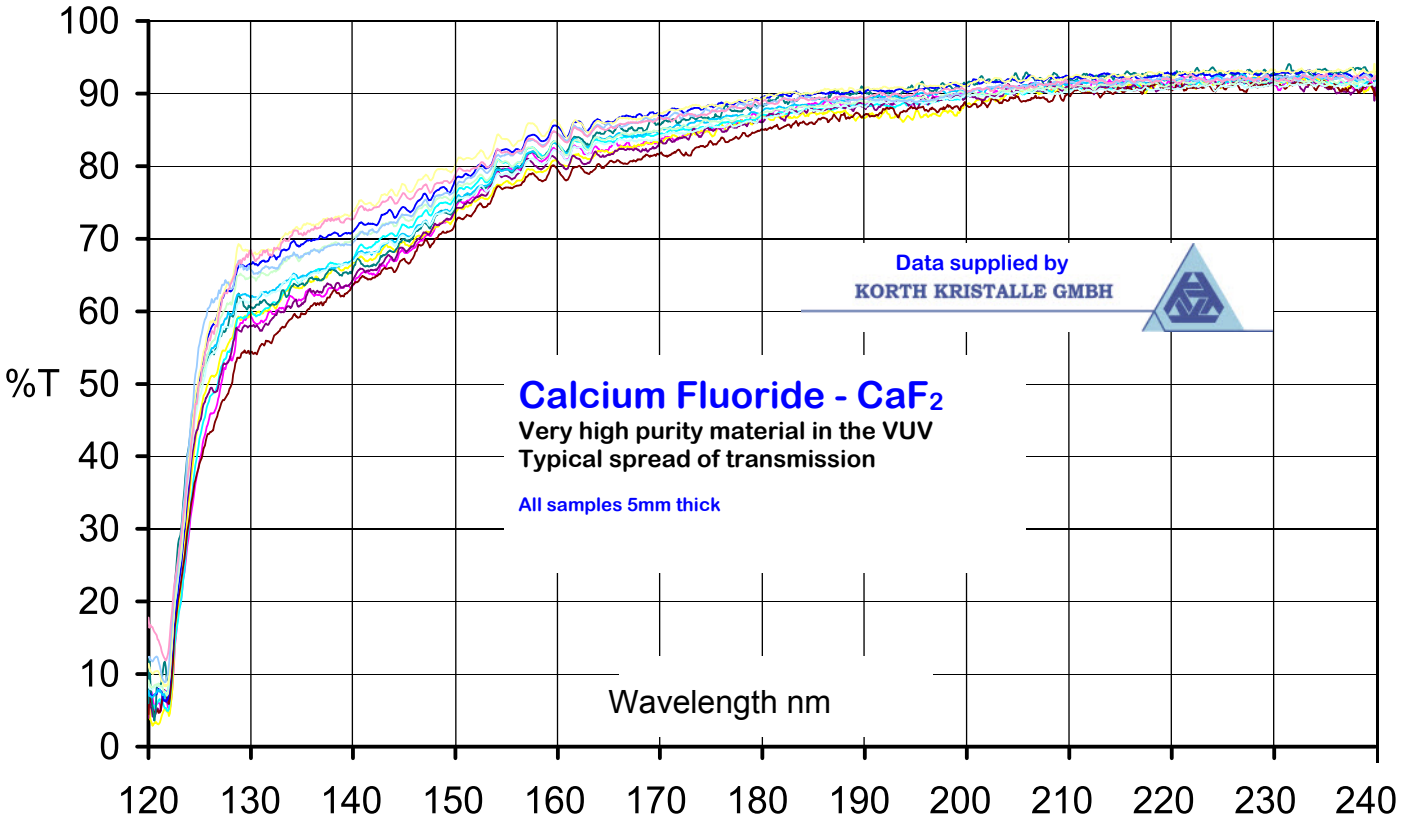
Using a higher grade of synthetically produced raw material, Crystran UV grade guarantees transmission through the UV-Visible spectrum as well as the IR. Absorptions at 0.3µm and 0.19µm to 0.25µm in the IR grade are avoided.

VUV Grade – 0.13µm to 10µm

Using analytical grade synthetically produced raw material, Crystran VUV grade guarantees transmission into the vacuum UV part of the spectrum extending to the theoretical limit for the material.

Eximer Grade – 157nm, 193nm, 248nm selected

Crystran Eximer grade is supplied from pure crystal ingots manufactured from highest purity raw material to ensure the lowest possible absorption for high power laser use. The internal absorption of the crystal is tested by transmission through long path lengths at particular eximer wavelengths.



Raman Grade – for Raman spectroscopy applications

Crystran Raman grade is supplied from specially selected ingots not exhibiting any fluorescence emission bands which might interfere with Raman spectroscopy applications.

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