

## Fluorescence

Fluorescence is a form of luminescence. This is a term describing any emission of light by a substance that is not the direct result of incandescence. Diamonds that are exposed to ultra-violet light (long wave or short wave) may glow, showing a certain degree of fluorescence. Fluorescence is caused by electron activity inside a gemstone, which results in the emission of energy. Should this energy have a wavelength in the visible portion of the electromagnetic spectrum, fluorescence results. Impurities in a diamond could create structural irregularities that could cause fluorescence. Blue fluorescence is the most common type of fluorescence in diamonds. In the trade, some stones are known as Premier diamonds.

This term is used to describe diamonds that have a yellowish body colour in artificial light but exhibit a distinct bluish fluorescence under ultra-violet light or even, daylight because daylight contains ultraviolet rays. The term Jager has also been used for diamonds with a colourless body that fluoresce blue. Industrial diamonds show a variety of colours, with yellow as the dominant colour. Fluorescence may detract from the beauty of a diamond and may also appear “oily” because the fluorescence is so strong that it masks the normal reflections of white light. Fluorescence is used by the trade and the laboratories as an identifying feature. Not all diamonds exhibit fluorescence and the intensity may vary from none, slight or moderate to distinct. (See illustrations below)



In the past few years, negative publicity was written about fluorescence, however today there are several articles put out by reputable gem laboratories refuting the previous claims and there is an acceptance in the trade that fluorescence is not a negative feature, rather an identifying feature. Remember- only very distinct fluorescence can sometimes be seen with the naked eye. Most fluorescence in diamonds will go unnoticed unless in a controlled environment with ultraviolet light.

A positive spin on fluorescence in diamond:

1. It provides the opportunity to promote the unusual, especially in coloured fluorescence, e.g., purple, green, etc. Alrosa the large Russian diamond producer is actively promoting fluorescent diamonds.
2. It is a useful identifying feature of the diamond and is noted in laboratory diamond reports.
3. It is a quality that not all diamonds possess, and it is therefore unique to that diamond.