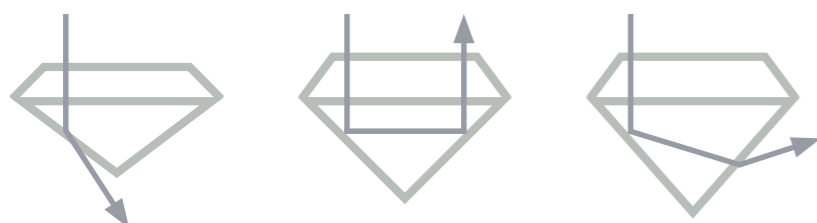


# The chemistry of diamond rings

Diamond rings are synonymous with engagements; diamond itself is an form (allotrope) of carbon, but other chemical elements can impact on its appearance. Here we look at 'the 4 Cs' and their chemistry links, as well as some of the metallic elements that help to make up the ring itself.

## Diamond cut



Shallow

Ideal

Deep

The cut of a diamond affects how well it reflects light. Too shallow or too deep and the reflection of light is poor, so the diamond seems to sparkle less.



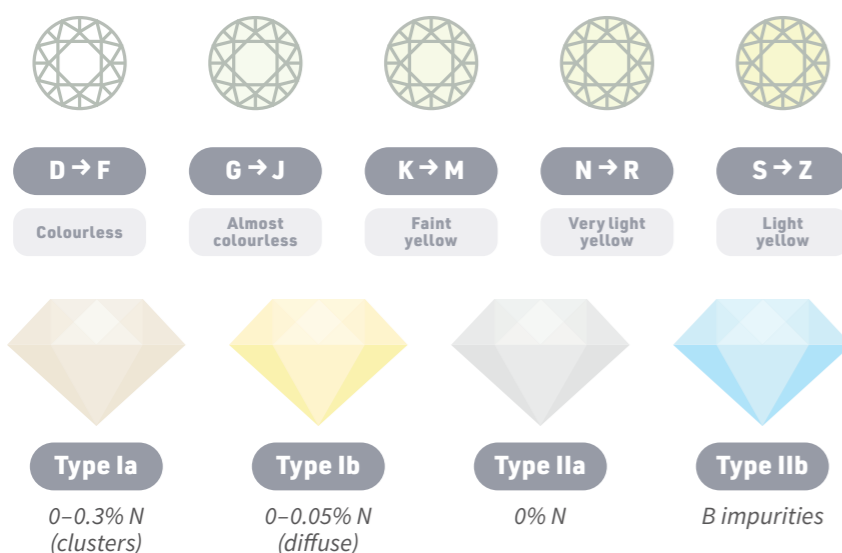
## Diamond carat



Top: weight in carats; Bottom: approximate diameter in millimetres.  
Diamonds not shown to scale, but are in proportion to each other.

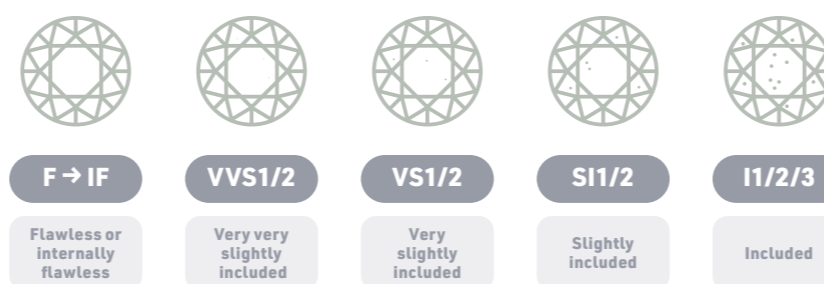
Diamond carat measures mass; one carat is equal to two hundred milligrams. Diameters are approximate, as they vary depending on the cut of the diamond.

## Diamond colour



Diamond colour is influenced by impurities. Nitrogen impurities give a yellow hue, whereas boron impurities give rarer blue diamonds. Type Ia are most common.

## Diamond clarity

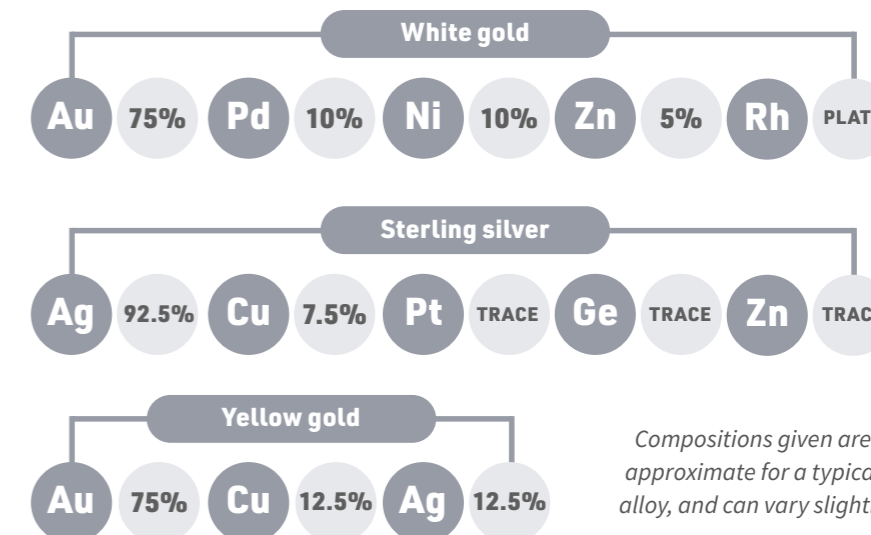


Potential elemental impurities gained during diamond growth



Most diamonds have some imperfections. These can be internal or external, and include chips, scratches, carbon spots due to carbon not completely crystallising when the diamond was formed, or artefacts due to the presence of other impurities in the diamond.

## Ring composition



Compositions given are approximate for a typical alloy, and can vary slightly

The ring itself can be fashioned from a variety of metals. Alloys of gold and silver are common, but platinum rings and palladium rings are also popular, and more durable.