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Results of Specific Gravity Testing of Three Commercial Diamond Simulant Gemstones

Executive Summary: Samples of diamond stimulant gemstones from three separate commercial suppliers were sent to a third-party laboratory for specific gravity testing. The samples each were a nominal 6.5 mm diameter round brilliant cut gemstone. The samples were randomly identified as “A,” “B” and “C”, and thus were “blind” to the testing lab.

SPECIFIC GRAVITY

Specific gravity formally is defined as the ratio of the density of a given material, to the density of water. Because the density of water under typical room conditions ordinarily is very close to 1 g/cm³, the specific gravity of a given material, under typical room conditions, is equal to, or very close to, the density of the given material under those conditions.

In the present test, the density of each stone was first determined by water displacement, using HPLC water. This density then was divided by the density of water at 25.0 °C, which from the reported results, appears to be just slightly less than one under the conditions used. The specific gravity values for the three samples are given in **Table One**.

Table One: Specific Gravity

Sample	A	B	C
Source	Diamond Nexus	Phenec Gems	Orleans Jewels
Specific Gravity	5.63	4.36	3.15

Results

Three gemstones were tested: a 6.5 mm Diamond Nexus diamond simulant, and two cubic zirconia gemstones; a 6.5 mm Orleans Jewels cubic zirconia, and a 6.5 mm Phenec cubic zirconia white round. The Diamond Nexus gemstone had a specific gravity 33% greater than the mean value of the two cubic zirconia samples.