COLORED GEMSTONE REPORT

EGL USA® GEMOLOGICAL LABORATORY

Absorption Spectra

The absorption spectra of a gemstone reflect the electromagnetic radiation absorbed by the stone over a visible range of wavelengths (approximately 400–800 nanometers.) This is recorded on a graph that plots the transmittance against wavelengths. And it provides a unique "fingerprint" of the gemstone.

Carat Weight

A carat is a unit of metric measurement used for gems.
One carat (ct.) equals 100 points, 200 milligrams, or 1/5 of a gram.

Color

Colored gemstones are distinguished by their hue (the characteristic color) or by a combination of hue, tone (lightness), and saturation (strength). Typically, gems exhibit single colors. More unique phenomena — such as bi-coloration, color-change, play of color, chatoyancy (cats-eye effect), or asterism (star effect) — can create particularly distinctive stones.

Comments, Conclusions, and Descriptions

These sections of the report include additional details, identifications, and notes relevant to the gemstone.

Cut (Shape and Style)

Cut describes the silhouette or form created by a gemstone's contours and facets. Shapes vary from round to fancy cuts, such as emerald, oval, marquise, pear, heart, cushion, and triangle. And style includes variations of brilliant, stepped, mixed, and cabochon cuts. Beautiful gemstones can be found in virtually any shape or style.

Fluorescence

Fluorescence refers to a gemstone's capacity to emit a visible light when its atoms react to long- and short-wave ultraviolet rays. Fluorescence is measured for identification purposes and described on a scale from inert (none) to very strong.

GEMSTONE	COLOR										
	Colorless	Pink/Purple	Red	Orange	Yellow	Green	Blue	Violet	Brown	White	Black
Alexandrite											
Amber											
Amethyst											
Aquamarine											
Citrine											
Emerald											
Garnet											
Jadeite											
Kunzite											
Opal											
Peridot											
Ruby											
Sapphire											
Spinel											
Tanzanite											
Topaz											
Tourmaline											
Turquoise											

Gemstone Identification

Gemstones are minerals, rocks, organic, or inorganic materials that are, typically, cut and polished for use in jewelry. There are dozens of types of gemstones, each with a unique set of physical and optical properties.

Identifying Characteristics

Identifying characteristics (IC) are properties unique to each gemstone type. These can range from inclusions (crystals, needles, etc.) to modifiers added during treatments (halos, etc.). IC can also refer to instrument-based measurements such as refractive index, x-ray fluorescence, infrared light, or specific gravity.

Measurements

Round gemstone measurements are indicated by minimum–maximum diameter x depth, in millimeters. Fancy shapes are indicated by length x width x depth.

Origin

Origin indicates the presumed geographical source of the gemstone.

Refractive Index

The refractive index (RI) is the degree to which visible light bends as it passes through a gemstone. Each type of gemstone exhibits a unique RI or RI range — a result of its distinct chemical composition and physical crystallization. As such, RI is a strong identifying characteristic.

Transparency

Transparency refers to the amount of light transmitted through the gemstone. It is influenced by the texture of the material itself and the presence of inclusions. Transparency is rated on a scale of transparent (typically preferred), translucent, and opaque.

Treatments

A gemstone's color or clarity can be enhanced through a variety of treatments, such as heat, radiation, diffusion, or feather, fissure, or fracture filling.