



# GIA<sup>®</sup>

## GEM CLEANING AND DISPLAY CHART



GIA.edu

The World's Foremost Authority in Gemology™











# GEM CLEANING AND DISPLAY

Gemstones will keep their beauty with proper care. We've selected some of the most popular ones, and provided valuable tips on their care and cleaning. Correctly identifying the gem material you are cleaning before you begin working on it is critical to proper care and will save from inadvertently harming the stone.



# GIA®

● Relatively Safe     
 ● Use Caution     
 ● Use Extreme Caution     
 ● Avoid

GEM MATERIAL	MOHS HARDNESS	TOUGHNESS	POSSIBLE TREATMENTS	ULTRASONIC	STEAMER	COMMENTS	HEAT	SUNLIGHT	ARTIFICIAL LIGHT	COMMENTS
AMBER 	2 - 2 ½	Poor	Heat, pressure, dye, reconstruction	●	●	Attacked by strong solvents	●	●	●	May darken with age. Treated red and green amber might fade.
ANDALUSITE 	7 - 7 ½	Fair to Good		●	●	Use extra care if liquid inclusions are present	●	●	●	
BERYL (Aquamarine, Morganite, & others) 	7½ - 8	Good	Heat, irradiation, fracture filling	●	●	Use extra care if liquid inclusions or feathers are present	●	●	●	Maxixe (irradiated dark blue) will fade when exposed to light
BERYL (Emerald) 	7½ - 8	Poor to Good	Fracture filling, oiling, dye, plastic coating	●	●	Avoid solvents	●	●	●	
CHALCEDONY 	6½ - 7	Good	Dye, heat	●	●		●	●	●	
CHRYSOBERYL 	8½	Excellent to Good	Fracture filling, irradiation, coating	●	●		●	●	●	
CORAL 	3 - 4	Fair to Good	Dye, heat, bleach, impregnation	●	●		●	●	●	Avoid heat
CORUNDUM (Transparent Ruby & Sapphire) 	9	Excellent except in highly twinned or fractured stones. Black star sapphires especially prone to this kind of weakness.	Heat, dye, coating, diffusion, irradiation (sapphire) (rare), glass fillings, fracture healing (flux and/or glassy residue on fracture planes and cavities), oiling	●	●	Polishing compound may enter inclusions/ fractures breaking the surface. Filled, dyed or oiled stones: avoid both cleaning methods and solvents.	●	●	●	Irradiated: avoid heat and light
CORUNDUM (Star Ruby & Sapphire) 	9		Heat, diffusion, fracture filling, dye	●	●		●	●	●	
DIAMOND 	10	Good (in cleavage directions) to Exceptional (in other directions)	High pressure/high temperature (HPHT), laser drilling, internal laser drilling, bleaching, coating, fracture filling	●	●	Use caution if stone contains feathers, is included, or has been fracture-filled	●	●	●	











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DIAMOND, COLORED 	10	Good to Exceptional	HPHT, irradiation, HPHT & irradiation (irradiation may or may not be followed by heating), fracture filling, laser drilling, internal laser drilling, bleaching, coating, low pressure/high temperature (LPHT)	●	●	Use caution if stone contains feathers, is included, or has been fracture-filled	●	●	●	
FELDSPAR (Moonstone & Labradorite) 	6 - 6½	Poor	Oil, fracture-filled. Moonstone: blue or black coating on base of cabochon	●	●	Avoid heat	●	●	●	
FELDSPAR (Sunstone) 	6 - 7	Poor		●	●	Avoid heat	●	●	●	
FLUORITE 	4	Poor	Heat, irradiation	●	●	Avoid heat	●	●	●	
GARNET 	7 - 7½ Demantoid: 6½ - 7	Fair to Good		●	●	Ultrasonic: risky if liquid inclusions are present. Avoid thermal shock.	●	●	●	
IOLITE 	7 - 7½	Fair		●	●		●	●	●	
IVORY 	2¼ - 2¾	Fair	Heat, irradiation, dye, bleach, paint	●	●	Avoid solvents. Clean with cloth dampened in methylated spirits.	●	●	●	Yellow with age. Porous: Skin oils, lotions, perfumes, etc. may discolor in handling.
JADE (Jadeite) 	6½ - 7	Exceptional	Bleaching, impregnation, dye, wax, heat	●	●	Treated: avoid strong solvents	●	●	●	Dyed: may fade
JADE (Nephrite) 	6 - 6½	Exceptional	Bleaching (rare), impregnation (rare), dye or staining, wax	●	●		●	●	●	
JET 	2½ - 4	Poor		●	●		●	●	●	

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LAPIS LAZULI 	5 - 6 Varies with impurities	Fair	Dye, wax, oil (impregnation), coating	●	●	Dyed: avoid acetone and other solvents	●	●	●	Dyed: may fade
MALACHITE 	3½ - 4	Poor	Epoxy, wax	●	●	Avoid chemicals	●	●	●	
OPAL 	4½ - 6	Poor to Fair	Dye (sugar, smoke, or colored fillers), impregnation (plastic wax, polymer, resin), coating (polymer, resin)	●	●	Avoid thermal shock. Some natural, smoke or sugar-treated opals are very porous: avoid liquids (RI fluid or any type of polish, etc.).	●	●	●	Heat and strong light promote dehydration that results in crazing or fracture
PEARL 	2½ - 4 (Cultured) 2½ - 4½ (Natural)	Usually good but variable	Irradiation, dye, bleach, peeling, filling, coating, impregnation	●	●	Wash gently in warm soapy water, dry thoroughly, and restring. Always clean after wearing. Avoid salt water, chlorine water and household cleaners.	●	●	●	Dyed: some colors may fade. Moderate heat and strong light promote dehydration, cracking.
PERIDOT 	6½ - 7	Fair to Good		●	●		●	●	●	
QUARTZ (Amethyst, Citrine, Ametrine) 	7	Good	Heat, irradiation, dye	●	●	Avoid thermal shock	●	●	●	Amethyst may fade with prolonged exposure to strong light and heat
QUARTZ (Other Transparent Varieties) 	7	Good	Heat, irradiation, quench-crackling, dye	●	●	Avoid thermal shock	●	●	●	
QUARTZ (Tiger's-Eye & Rose Quartz) 	7	Good	Tiger's-Eye: heat, dye, bleach; rose quartz: irradiation, quench-crackling, dye	●	●	Avoid thermal shock	●	●	●	Dyed: may fade. Rose quartz: may fade.










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SHELL 	3½	Poor to Fair	Dye	●	●		●	●	●	Dyed: may fade
SPINEL 	8	Good		●	●		●	●	●	
SPODUMENE (Kunzite) 	6½ - 7	Poor	Irradiation followed by heat treatment	●	●	Avoid thermal shock	●	●	●	Kunzite commonly fades. Irradiated green fades (in minutes to hours).
SUGILITE 	5½ - 6½	Good		●	●		●	●	●	
TOPAZ 	8	Poor	Heat and/or irradiation, coating, diffusion	●	●	Avoid thermal shock	●	●	●	Some browns fade. Irradiated yellow to yellowish brown fades.
TOURMALINE 	7 - 7½	Fair	Heat, irradiation; Cat's-Eye: acid, filled or impregnated	●	●	Avoid thermal shock. Fracture filled stones: avoid both cleaning methods and solvents.	●	●	●	Irradiated gems can fade with heat or bright light
TURQUOISE 	5 - 6	Poor to Good	Oil, wax, plastic coating/impregnation, dye	●	●	Avoid heat and chemicals. Ultrasonic solution may discolor.	●	●	●	Porous: skin oils, lotions, perfumes etc., may discolor in handling
ZIRCON 	6 - 7½	Poor to Fair (heat-treated); Fair to Good (untreated)	Heat	●	●		●	●	●	Heated: some revert to original color when exposed to light
ZOISITE (Tanzanite) 	6 - 7	Poor to Fair	Heat, coating (rare), fracture-filled	●	●	Avoid thermal shock	●	●	●	

Care and cleaning information for many of these gems can be found in the GIA Gem Encyclopedia at [GIA.edu](http://GIA.edu)

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The information on this chart is intended to provide general guidelines for routine cleaning. Outcomes can vary significantly depending on the manufacturer of your equipment; the type and strength of the solutions you use; and the intensity and frequency of their applications. Be sure to follow manufacturer guidelines and, if you're uncertain, avoid steam or ultrasonic cleaning entirely.

# About GIA

## The World's Foremost Authority on Diamonds, Colored Stones and Pearls

GIA has been the world's most trusted name in diamond grading and gemstone identification since 1931. With objectivity and independence as its hallmark, GIA is recognized as the leader in gemological research, education and impartial gem reporting services.

GIA sets the standard for determining the qualities of diamonds, colored gemstones and pearls. As the creator of the 4Cs, the International Diamond Grading System™ and the 7 Pearl Value Factors™, GIA provides all who buy or sell gemstones with a common language. And it continues its role as the leading research institute with its peer-reviewed journal, *Gems & Gemology*.



More than 365,000 students – many holding important and influential positions throughout the industry – received their education at GIA. The Institute offers a comprehensive gemology and jewelry manufacturing arts curriculum and its Graduate Gemologist diploma program is widely regarded as the most prestigious professional credential in the gem and jewelry industry.

GIA operates in 12 countries with campuses, grading laboratories and research centers around the world. As an independent nonprofit organization, all of GIA's activities are governed by its mission to protect the public trust in gems and jewelry.



# Retailer Support Program

GIA's Retailer Support Program offers a number of tools for educating your customers about the 4Cs, diamond grading reports, and more to build confidence with your customers and help drive sales.

## In-Store Tools

You'll find tools that help customers understand the 4Cs of diamond quality, as well as gain gemstone knowledge. In addition, in-store tools, including window displays, will let your customers know you sell GIA-graded diamonds.



4Cs Counter Display



4Cs Brochure  
Available in 18 languages

## Downloads & Interactive Tools

GIA offers a number of free digital tools that help your customers make smart decisions. These include videos on how to choose a diamond, interactive 4Cs scales, and GIA images and logos, which are available for use on your website.



4Cs Interactive Tool for Your Website



Logo Lockups for Your Website



## GIA 4Cs App and Retailer Lookup

The 4Cs app features videos and interactive tools that educate your customers about the 4Cs and offers direct access to GIA's online database of reports. And if you carry GIA-graded diamonds or have GIA-trained staff, be sure your business can be found by registering on the GIA Retailer Lookup. The Lookup lets customers find you simply by entering a city or postal code.

Register for the Retailer Lookup, download the 4Cs app and find even more retailer support materials in multiple languages at

**retailer.GIA.edu**