

# JQ<sup>TM</sup>

Magazine

*The Journal for Professional Jewelers and Designers.*  
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# The Bright Business GAR

BY CYNTHIA

Creativity plays an important part in our lives.

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The trillion-style cut enables rhodolite to be all it can be: bold, bright and bursting with color. Ring by Nanz Aakund, Nordstrom Fine Jewelry. Gems by Cynthia Renée.





of Designing With

# NET

MARCUSON



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## Designing With Garnets

Creativity plays an important part in our lives. We create new designs, creatively solve problems and even take creative measures to collect on accounts! To keep our creativity flowing, some of us even create rituals to relieve accumulated stress's blocking effects. For me, it's being outdoors. Walking in a forest, I am lulled by the lush greens, bark's cinnamon glow, and the ripe burgundies of berries and rose-hued flora. Designing with garnet can also be a walk in the woods, complete with the raspberries, greens and spices.

Garnet has a multitude of uses and is found in from some of the most costly jewelry to some of the most simple. Depending on the quality, size and cut, rhodolite garnet can be the focal point of an exclusive design or provide manufacturers with a readily repeatable gem for quantity orders. Though provoking as a center stone, the green tsavorite garnet shines as melee which can be bezel, channel or prong set or used in more complex-calibre work.

With all its beauty, can garnet avoid a starlet's attitude? Garnet is refreshingly untemperamental and durable enough for men's rings. Garnet helps you stay within a certain price-point while offering beautiful jewelry that sells.

Garnet is the name applied to a group of minerals that exhibit the same crystal form and share a similar chemical composition. The eight species of garnet can be divided into specific varieties. For the most part, varietal names have been coined by savvy merchandisers to enhance marketability. Tsavorite is a variety of the garnet species grossularite. Rhodolite is a varietal form applied to the lovely pinkish and purplish shades of the pyrope-almandine garnet species.

For the gemologist, identification of the species and variety of garnet is based on color, refractive index and spectral features. For the manufacturer/designer, garnets are discussed in hues, sizes and price.

### SPARKLING RHODOLITE

All things being equal, the more pink or purple and less brown a rhodolite, the higher the price. Darker, reddish stones are also enjoyed by many, providing they are bright.

The higher availability of orangish red and brownish rhodolites is reflected in their lower price. If you desire to manufacture quality pieces that sell faster and show well under Jewelers' showcases, consider quality rhodolite that comes in bursts of raspberry red, bright pinkish hues or full-bodied burgundy. Avoid overly orange and brown hues unless price is the primary design parameter.

With its higher refractive index, garnet can be a very bright gemstone. When cut in the trillion shape, this bright-

ness is most fully released. Because of its extreme brightness and powerful color, a trillion-cut rhodolite can stand as a design's focal point. Especially in smaller sizes, many trillion rhodolites can be used in one piece, rivaling the brightness of a ring of fire. Conversely, trillion rhodolites are a good choice to accent other colored gems such as tanzanite, yellow sapphire, green tourmaline, amethyst or citrine. Before being swept away by designing with rhodolite trillions, be sure you are



Uniquely cut rhodolite and malaya garnet in creative designs by Nordstrom Fine Jewelry, San Francisco. Gems by Cynthia Renée.

using a supplier who can guarantee you a consistent supply plus uniform cutting and quality. This is especially important if the color you desire is pinkish and the size over 6 mm.

A new calibrated cut we are introducing in rhodolite this year is the *chestnut*. Like the trillion, it unlocks rhodolite's brightness. Instead of straight sides, the chestnut's lines are curved and rounded, opening further design possibilities to the manufacturer.

Rhodolite is also interesting in buff-top squares. Buff-tops combine a cabochon's rounded top with a faceted bottom, resulting in a seductive reflecting-pool glow. These are currently available in 3 mm squares which work beautifully in straight lines, channel set, or as accents to other gemstones. Try using these in channel-set stack rings alternating with similarly cut tanzanite, tsavorite and/or yellow sapphire or beryl.

Larger rhodolites contrast well with high-karat gold. Fine single stones over ten carats are more rare than their smaller-sized equivalents. Expect to pay more per carat for equivalent quality rhodolite of larger sizes. Matched pairs of fine larger sizes have an even higher price premium.

The domed cabochon cut, long popular in Europe, is becoming more and more popular in American jewelry.



Rhodolite cabochons are extremely versatile, evoking a rich "old world" feel in textured jewelry or a contemporary one when set in sleek, clean-lined designs. One design trick to bring out a cabochon's inner glow is backing it with rhodium-plated metal or actually setting it with reflective mylar similar to the foil backing of yesteryear.

## VIBRANT TSAVORITE

I find tsavorite garnet's green to be the most lush of all gemstone colors. This lushness is brought to a crescendo when expanses of cool tsavorite melee are contrasted with the fiery whiteness of diamonds. To be tsavorite, the green must be a vivid, rich, darker green and not a lighter, pastel or overly yellow green.

Tsavorite was first discovered in the late 1960s in Kenya's Tsavo National Park. Tiffany & Company, who tried to become the United States' sole marketer of this new garnet, coined the varietal name, tsavorite, honoring its origin. Admittedly, the name tsavorite conjures up a very different mental image than green grossular garnet. Simultaneous with the unearthing of tsavorite was the discovery of the vibrant indigo tanzanite. Combining tsavorite and the now abundant tanzanite in one piece can be smart, telling a story of rare new gems from an exotic locale while offering the public sapphire's and emerald's familiar colors at a fraction of the price for equivalent quality. Tsavorite and rhodolite garnets also create a top pairing.

Manufacturers using tsavorite *must* be sure they have a reliable source for repeatable pieces. Sporadic tsavorite lots may be found here and there, but reliability is important as is bluish green color, consistency and cleanliness. Though I opt for optimism, experience cautions to order extra pieces in case of setting breakage.

Tsavorite melee is standardly cut in emerald-cut and round shapes. For a newer design option, try the lively cushion cut, which gives greater brightness than the emerald cut and can also be channel set. Cushion tsavorite melee is also successfully used as side stones or wherever a bright exclamatory accent is needed.

Many garnet species can be spicy col-

ored, ranging from the colors of a tangerine to hot cinnamon candy and russet. The orangish garnets are found in the species spessartite, as well as the varieties malaia and hesonite. Finer examples of these colors (devoid of brownish or rust overtones) are only sporadically found. As such, their place in repeatable manufacturers' lines is limited but they are perfect for unique, one-of-a-kind jewelry pieces.

Some manufacturers prefer to have colored gemstones

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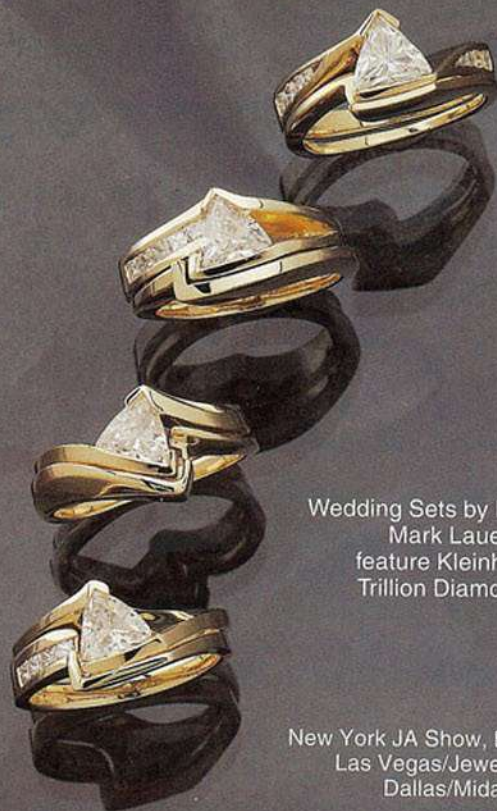


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cut in sizes and shapes specific to their needs. Before undertaking a custom cutting job, the cutter and manufacturer must have a clear idea of what is needed.

For more complex cutting, the best way to avoid time- and money-wasting mistakes is for the manufacturer to provide a sample stone with the exact measurements needed. If no sample stone is available, a schematic specifying measurements and proportions can be used. Realize that gemstones are not like fabric dye lots! Though your color can be closely matched, some variation must be accepted.

## A JEWELER'S GUIDE TO GARNETS

**GRANATUM.** The word is Latin for "pomegranate"—the seeds of which garnet was thought to resemble. Unfortunately, many of your customers may associate garnet with the somber, red stone crowning their grandmother's less than exciting jewelry. Besides pomegranate red, garnet grants you a sweeping selection of color with which to create. Garnet is no less than dazzling.

The groups of minerals in the garnet family are called

*species*. In the Winter 1985 *Gems & Gemology*,\* Carol Stockton and Vince Manson proposed a classification for gem-quality garnet. They divided gem garnet into eight species: pyrope, almandine, pyrope-almandine, spessartite, almandine-spessartite, pyrope-spessartite, andradite and grossularite. Tsavorite and hessonite are varieties of grossularite; demantoid and seldom-seen topazolite are varieties of andradite; rhodolite is a variety of the pyrope-almandine species and malaia is a variety of pyrope-spessartite.

A chemical formula states the proportions of the elements found within the substance; the chemical formula for garnet is complex. The eight species of garnet each have slightly different chemistry. All of the elements that comprise garnet, with the exception of oxygen, are metals. These particular metal atoms are similarly sized and can easily substitute for one another within the crystal lattice. When the atoms don't interchange and are in the amounts specified by the chemical formula given for each species, the species is said to be pure. But, as is more often the case, while the garnet is still crystallizing the metals play a game of musical chairs and interchange with each other. We get hybrids. Bits of several species can be present in one stone. Whichever species is more predominant names the stone.

\**Gems & Gemology* is the quarterly publication of the Gemological Institute of America.

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Natural gem garnets occur in a wide variety of hues from yellow through green to red through purple. There are even transparent colorless garnets. Some of these colors are characteristic of certain types of garnets. But color alone does not identify garnets. A vivid green garnet is either grossularite (tsavorite) or andradite (demantoid). Several red garnets may look very similar to the eye, but differ considerably in their properties and chemical composition. Pyrope and grossularite may both be colorless. Yellow garnets are limited to grossularite, while yellowish orange to reddish orange and brownish garnets may be grossularite, spessartite, or one of the various combinations of almandine, spessartite and/or pyrope. These are the "hybrids."

Unlike mineralogists, gemologists are generally limited to a few basic tests which measure a gem's optical and physical properties. The mineralogical world identifies and classifies garnets in a manner that would not be practical for the gemologist. In order to develop a useful classification of gem-quality garnets for gemologists, Stockton and Manson carried out detailed chemical, optical and physical analyses. Their well-received outline enables the gemologist to readily identify the species of garnets.

Here is a brief overview of the colorful garnet family with

particular emphasis on my experience in helping Jewelers buy and sell garnets.

## REDDISH PURPLE GARNET

So, you need to help your customer with a reddish garnet? Well, the choices are plenty. Reddish garnets are found in a great many garnet species, mainly pyrope, almandine and pyrope-almandine. Several reddish garnets may have a strikingly similar appearance yet be different species. For this reason, calling a gem dealer and specifically requesting a pyrope or almandine does not best relay the qualities of the garnet you are looking for. Describing color and not the species will get the project off to a faster start.

The preferred stones are the lighter purplish pink ones which most often fall under the variety of *rhodolite*. Generally, the more pink or purple and less brown a garnet is, the higher the price. In the higher price range would be a large, ten-plus carat, well-cut, bright pinkish rhodolite. A bright, yet darker pure red garnet of the same size may cost as little as a quarter of the price. Because of their size, fine purplish pink rhodolites of three- to five-carats are lower on

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## Beyond Imagination



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the cost chart, as are nice reddish violet gems in the one- to three-carat sizes.

The lovely rhodolite is a varietal term applied to the pinkish and purplish shades of this *pyrope-almandine*. This beautiful gem is considered by many to be undervalued, and a jeweler can stock a wide variety of rhodolites in one- to five-carat sizes for a modest investment.

Rhodolite derives its name from the find of rhododendron-colored garnets unearthed in North Carolina in 1898. Today, however, major sources are Sri Lanka and East Africa.

The colors of pyrope-almandine range from reddish orange through red-purple and the properties of this species are intermediate between those of pyrope and almandine. Its refractive index varies from 1.742 to less than 1.785.

The colors of pyrope range from purplish red through reddish orange and pyrope can even be colorless or pink. Its refractive index ranges from 1.714 to less than 1.742. The pink pyropes fall in the lower refractive index range and sometimes lead the gemologist to think he has a pink grossularite. Some red pyropes are colored by chromium; the refractive index of these stones falls within the higher RI range.

The word *pyrope* derives from the Greek for "fiery," in reference to its red color. Pyropes were originally found near Trebnitz, in northeastern Bohemia (later part of Czechoslovakia). This find of Bohemian pyropes gave rise to a large, yet localized, gem-cutting industry during the 19th century. These mines lasted until better quality material was found in the diamond mines of South Africa.

Have you ever heard the term *anthill garnet*? This is a pyrope mined on the Navajo Reservation in Apache County, Arizona, where the garnet pebbles are excavated by ants digging their burrows. Baja California, Mexico, also yields larger pyropes over ten carats though these stones tend not to be as bright as their Arizonian counterparts.

Orange-red through purplish red is ascribed to *almandine*. Almandine is often darker than the other reddish garnets and of the quality often associated with class rings. Because of its darker color, historically much of it has been cabbed with hollow backs to lighten the color. A lot of this material ends up as beads or is tumbled in free-form shapes. The refractive index for this species varies between 1.880 and 1.895.

Most star garnets are almandine. Stars are caused by very fine, needle-like hornblende crystals which align themselves parallel to garnet's crystal form. When correctly oriented and in cabochon form, this type of garnet will show a four-rayed star. This star is not as sharp as those that can be displayed by corundum.

## GREEN GARNETS

Green garnets inspire ahhs. The rich, vivid green of *tsavorite* or the brilliant green of *demantoid* are equally moving. Both are rare and highly prized.

The term *grossularite* has its origin in Latin. The word *grossularium* means "gooseberry" and refers to the pale green color of some of the garnets. When is a green grossularite deemed tsavorite and when is it merely green grossularite? Again, it is the same scenario played in pink sapphire versus ruby or emerald versus green beryl. The difference is often the position between the buyer and the seller. In my mind, tsavorite should be a vivid, rich, darker green and not a

lighter, pastel or overly yellow green. Refractive indexes range from 1.730 through 1.760.

The fiery green demantoid has greater dispersion than a diamond. A white diamond may more readily show this dispersion. The demantoid's darker body color somewhat masks the dispersive effect it would achieve if demantoid had no color to offer. Refractive indexes range from 1.880 through 1.895. Demantoid's name stems from the German word for "diamond," indicating an adamantine luster.

Demantoids were first found in the Ural Mountains of Russia in 1868. Russia is still considered the premier source for this rare garnet, though production is scant. The lack of a renewed source for this rare garnet only makes it more coveted.

Demantoid was a favorite gem of the Art Nouveau Jewelers at the turn of the century. Demantoids were well suited for the dream-like designs featuring insect and sala-

mander motifs.

There are two distinct visual indicators for demantoid: its dispersion and the frequent presence of horsetail inclusions which are actually thin, radiating fibers of an asbestos known as byssolite. These inclusions are so unique and characteristic that a demantoid garnet is frequently cut so the



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*Richly colored rhodolite contrasted against the richness of yellow gold. The custom-cut rhodolite flows with the jewelry's full, rounded shape. Jewelry by William Lowe, Inc.*  
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horsetails are unmistakably visible. One client, who is an avid collector with an excellent eye, recently delighted in telling me about the fantastic demantoid he acquired that, "even has a perfect horsetail inclusion. It's gorgeous centered in the middle of the crown."

Demantoids over three carats are extremely rare and prices for such rarities are negotiable.

## ORANGE GARNETS

Many garnet species can be orange colored—you will find them anywhere between the colors of a tangerine, hot cinnamon candy and rust. The orangish garnets are found in the species *spessartite*, and the varieties *hessonite* and *malaia*.

Spessartite is a rather rare, yellowish orange through orange-red to orangish brown garnet. The name *spessartite* derives from its original locality at Spessart in northwestern Bavaria. This spessartite locality contributed far more to the name of this garnet than to gem stockpiles. Spessartite is often known under its French form, *spessartine*, and both terms are frequently used in the trade. Spessartite's refractive index is 1.780 to less than 1.810.

Sources of spessartite can be found within the United States, with some of the prettiest gems originating from San

Diego, California, at the Little Three Mine. Amelia County, Virginia, has also produced fine spessartites. Larger spessartites are very unusual, with most under three carats. Louie Spaulding, owner of the Little Three Mine, says only a few spessartites faceting over five carats were discovered between 1952 and 1975.

With spessartites, the more pure orange and less brownish the stone, the better. The coveted tangerine-colored stones are so rare, prices correspond to the seller's motivation and the buyer's desire.

Hessonite vies with spessartite in color. Sometimes known as the cinnamon stone, hessonite colors are yellow-orange to reddish orange. The presence of brown lessens its desirability. Hessonites can be more fiery in artificial light than daylight. Refractive indexes are 1.730 to 1.760.

Hessonite originates in three major localities: Madagascar, Mexico and the Province of Quebec in Canada. A prominent dealer of rough gemstones says that the slightly different colors from each source give him keys to locality. Apparently, the stones from Madagascar are typically a "root-beer brown," and Quebec offers a "light gold to tan" hessonite. The Baja California peninsula of Mexico produces what are thought by many to be the prettiest hessonites,

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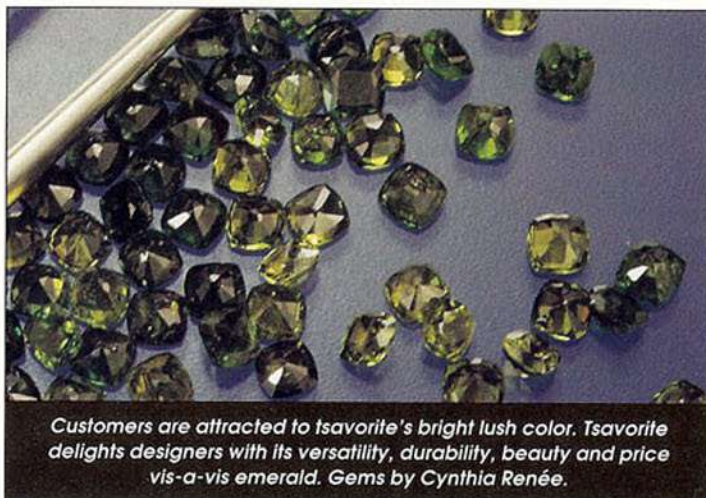


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which are a luscious cinnamon color.

About twenty-four years ago, East African miners came upon an orangish garnet while searching for rhodolite. They were disappointed by the orange garnet find because the market was more geared towards the rosy stone. No one wanted the orange garnet—it became a “nuisance” and the African miners nicknamed it *malaia*, which means “outcast” and is also slang for “prostitute” in the Swahili language (a prostitute is an outcast). The stone held a contemptuous status until American gem buyers noticed and appreciated its sun-kissed color. Quickly, the status of the maligned malaia garnet shot from outcast to coveted gem, or, as they say, from bedroom to boardroom.

Malaia is very often seen spelled “Malaya.” Using this spelling leads to mispronunciation and leads one to believe the gem originates in Malaysia.



Occasionally, a rare malaia will sport an enticing pinkish orange or peach color. These are personal favorites. Others may prefer the bright orange color. Add a little red or brown, and the desirability and the price tag ebbs. Refractive indexes range from 1.742 to less than 1.780.

## YELLOW GARNETS

A pleasing pastel to canary yellow grossularite also originates from East Africa, one of the world's garnet hotbeds. The yellow garnet is a common component in rainbow suites of garnets and sought after by garnet collectors. Stones should be free from green to be most appreciated.

The topazolite variety of andradite is a greenish yellow to yellow-brown color. These garnets are from Italy and Switzerland and rarely found large enough to facet. They are seldom encountered in today's market of colored gems

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for Jewelers. Criticism has been levied towards this confusing varietal name; some feel it may be less ambiguously referred to as yellow andradite.

## COLOR-CHANGE GARNETS

Color-change garnets, most of which originate from East Africa, exhibit a distinct body color change when viewed under incandescent and fluorescent (daylight) illumination. The first color-change garnet was described in 1970 by the GIA's Robert Crowningshield. It was a remarkable stone, being blue-green in fluorescent and purple-red in incandescent light.

The color of the changes is quite variable, as are prices. Most common on the market are the garnets that are greenish yellow-brown or light bluish green in fluorescent light and purple to purplish red in incandescent. The only blue garnet of any species is achieved through a color change like the one described in 1970.

A SELECTION OF FINE RHODOLITE AND TSAVORITE  
MAY BE SEEN AT BOOTH 404,  
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FEBRUARY 4-9, 1993.

A garnet that exhibits color change and has a refractive index from 1.742 to 1.780 is a *pyrope-spessartite*.

## GARNET OPTIONS

Garnet's beauty and durability make it ideal for jewelry. Instead of the usual drab red offerings, stand out by surprising your customers with a bright, colorful bouquet of garnets.

The use of garnets in manufacturer's semi-mounts allows you to individualize the mountings' styles so you can offer a pricepoint and look tailored to your store. Tavorite is rich and sophisticated combined with eighteen-karat yellow gold and diamond baguettes. Many of the bold red garnets are spectacular set with the striking simplicity of yellow gold.

Suites of garnet rainbows are also available. With the current popularity of diamond bracelets, wouldn't a bracelet of multi-colored garnets garner attention?

By offering a multitude of price and color options, garnet should be a favorite of any Jeweler. JQ

Cynthia R. Marcusson is a frequent contributor to JQ Magazine on the subject of gems and gem promotion. For further information please contact: Cynthia Renée & Co., P.O. Box 1763, Fallbrook, CA 92088, Tel: 619-728-5150, FAX: 619-728-2636.

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