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Titanium is winning place among favored materials of avant-garde jewelry

By Victoria Gomelsky

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NEW YORK: As a young jeweler in the early 1980s, Edward Rosenberg liked to anodize titanium in baths of champagne or Coca-Cola - anything electrolytic - just so he could watch the naturally grey metal blush from bronze to cobalt to turquoise. With each electric charge, an oxide layer formed, causing an optical phenomenon akin to the iridescent shimmer of peacock feathers or oil on water.

"I thought, 'Wow, this is the future of jewelry; it's colored,' " said Rosenberg, president and chief executive of Spectore, a manufacturer of titanium jewelry in Deerfield Beach, Florida.

But for a jewelry industry wedded to precious metals, titanium was, and still is to a large extent, an unknown quantity. Not only is it difficult to manipulate because of its remarkable strength - named for the Titans of Greek mythology, titanium is as light as aluminum but stronger than steel - but also the metal flouts every major tenet of luxury. No rarer than the beach sand from which it is extracted, it lacks the heft and intrinsic value of gold or platinum and does not evoke any cultural traditions, except perhaps for workers in aerospace, high-tech medicine or dentistry, fields in which it has found a niche.

Until now, that is. While gold and platinum still dominate the fine jewelry market, titanium has made inroads at the very highest echelons of the jewelry universe thanks to a handful of world-class designers who have been seduced by its feather weight and kaleidoscopic possibilities.

"I am particularly fond of titanium," said Wallace Chan, a spectacular gem carver who began experimenting with the metal in 2000 at his workshop in Macao. "What draws me most to titanium is the colorful nature of the metal. It is a way to open up a wider world for design."

A glimpse inside that world reveals an artist unrestrained by concerns of comfort or wearability. Inert and hypoallergenic, titanium is ideal for prosthetic implants, surgical instruments and, safe to say, earring posts. Its weight, or lack thereof, allows Chan to design dramatic chandelier earrings or gemstone brooches with a wispieness that belies their scale.

A sculpted titanium elephant mother and calf trampling a base of brown and white diamonds recently sold at Christie's Hong Kong for \$907,500 Hong Kong dollars, about \$115,000 at today's exchange rate, against an estimate of 750,000 dollars.

"The market perception is that titanium is cheaper," Chan said, "but in terms of added value and design, it's a lot more valuable."

This is a far cry from the days when Rosenberg and his business partner at the time, James Brent Ward, pedaled cheap titanium trinkets to fashion jewelry buyers in the United States.

"We were almost arrested for selling plutonium," Rosenberg said. "People figured because it had 'ium' at the end of it, it must be radioactive."

The Swiss watch industry came around to titanium in the 1990s, as watchmakers began incorporating it into chunky bracelet models. The metal is now ubiquitous, even among prestige brands.

But jewelers have been slow to embrace it. Titanium's great strength is often a liability at the bench, where basic stone setting becomes a Sisyphean task of trial and error. Casting calls for temperatures of 3,000 degrees Fahrenheit, or 1,650 degrees Celsius, and an inert atmosphere - casting in air can cause the metal to burst into flame - while finishing and polishing require carbide tools of considerable durability.

Simple, machined men's bands are widely available online at sites like Titanium-jewelry.com - which sells the Edward Mirell collection of designer rings made by Rosenberg's company - but at the ultra high-end, only a few workshops around the world are capable of working with the metal.

Among jewelry artists, Joel Arthur Rosenthal, or JAR, a jeweler in Paris at the vanguard of contemporary design, is generally regarded as the first to have made a foray into titanium in 1987, when he created a mauve-colored bangle encrusted with tendrils of gem-set flowers.

"We sold it in New York in April 2002 for \$500,000," said François Curiel, international director of Christie's jewelry department. "At the time, it was a record for a JAR jewel."

Another Christie's darling, Michelle Ong of Carnet in Hong Kong, first used titanium in 1995 to create a brooch that, she said, "combined a sense of fluidity and lightness with the necessary strength."

Titanium now constitutes about 10 percent of the Carnet collection, a colorful assortment of East-meets-West motifs - billowing dragons, flowers, feathers, lace - many of which are impossible to render in gold or platinum, lest they rip the silk dresses they are meant to adorn.

In Antwerp, Belgium, Francis Mertens, a talented jewelry newcomer, has forged a reputation for making delicate, voluminous designs that test the limits of titanium's capabilities.

"I want to coat it, color it, make it look like gold," said Mertens, whose jewels are sold exclusively at Bergdorf Goodman in New York. "There's no value in titanium so you have to come up with other ways to make it attractive."

Even companies in Italy's traditional jewelry-making region are committed to the metal. Jack Hadjibay of Andreoli, a manufacturer in the small Piedmontese town of Valenza, said he has spent three years perfecting a titanium collection that includes a butterfly pin that took nearly four months to produce. Its tsavorite-dusted wings span the length of a human hand.

"Each piece is one of a kind," Hadjibay said. "We cannot make any duplicates."

From Rome, where the designer Fabio Salini uses colored titanium to complement vibrant earrings of jade, red spinel and tanzanite, to Geneva, where the society jeweler Suzanne Syz relies on local ateliers to create jeweled confections, like her "Will o' the wisps" earrings in pink titanium, the metal is being used as a platform for magnificent gemstones.

At the workshop of the Hong Kong designer Edmond Chin, for example, 10 one-of-a-kind diamonds in graduating shades of green will soon be mounted in a bracelet encircled by rows of green diamond pavé.

"We might set it in titanium," Chin said. "We like to do things that are technically challenging."

That jewelers of Chin's caliber are willing to experiment with high-tech metals augurs a time in the not-too-distant future when even traditionally trained goldsmiths may consider the earth's most exotic metals fair game.

For Ward, Rosenberg's early pioneering partner, now based in Pittenweem, Scotland, it is about time. He has spent 40 years fashioning one-of-a-kind jewels from tantalum and niobium, corrosion-resistant metals that, like titanium, boast a beguiling capacity for coloration.

"I love niobium more than I love titanium," Ward said, "but titanium is the work-horse, it will provide the goods."