

## CATEGORIES OF GOLD BARS

INTERNATIONAL

### GROUPING

Standard, innovative and unusual gold bars, manufactured around the world, can be grouped into **55 categories**.

This supplement provides concise information and a photograph of each category.

The grouping by Grendon International Research (GIR) relies on information derived from associated GIR projects: The Industry Catalogue of Gold Bars Worldwide and The Industry Collection of Gold Bars Worldwide.

The categorization is based on weight denomination, shape, decoration or a distinctive feature.

Although jewellery, industrial and other fabricators absorb the bulk of bars manufactured, the bars in 46 of the 55 categories have the capacity to fulfill an **investment** role, as they would normally be issued at a low premium above the prevailing value of their fine gold content.

The 9 supplementary categories include newly-mined doré bars, melted scrap bars, bars which are issued at a fixed price or at a relatively high premium, and sample bars.

For a definition of a gold bar, cast bar and minted bar, refer to the website section: "**Definitions: Bar Types**".

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Proprietary List: Grendon International Research



The categories refer to cast and minted gold bars manufactured in 27 countries.

### FOCUS

Austria  
 Belgium  
 Germany  
 Italy  
 Netherlands  
 Spain  
 Switzerland  
 United Kingdom

Canada  
 USA  
 Brazil

Turkey  
 United Arab Emirates  
 India  
 Pakistan  
 Iran

China  
 Hong Kong  
 Indonesia  
 Japan  
 South Korea  
 Thailand  
 Vietnam

Russia  
 Kazakhstan

South Africa  
 Australia



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There are approximately 100 gold refiners and brands accredited to leading gold associations and exchanges.

Proprietary List: Grendon International Research. Note: In some countries, notably in the Indian Sub-continent and Middle East, minted bars are referred to as “minted products” or as “coins”, when the shape is round.

**CAST BARS**

**London 400 oz Bars**

The London Good Delivery (LGD) 400 oz gold bar is the standard bar used in transactions on the London Bullion Market. Commonly referred to as a “400 oz” or 12.5 kg bar, its fine gold content can vary between 350 and 430 troy ounces. The weight is not normally recorded on the bar. Minimum gold purity is 99.5%.



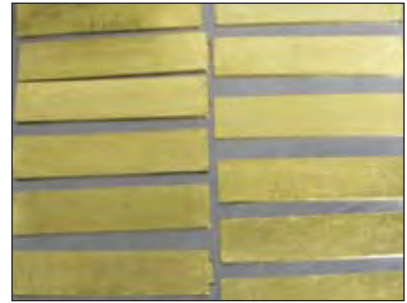
**COMEX 100 oz Bars**

The COMEX Good Delivery 100 oz gold bar is a standard bar used in transactions on the New York Stock Exchange (NYMEX), COMEX Division. Commonly referred to as a “100 oz” bar, its weight can range between 95 oz and 105 oz. Minimum gold purity is 99.5%.



### Shanghai 3000 g Bars

The Shanghai Good Delivery 3000 g gold bar is a standard bar used in transactions on the Shanghai Gold Exchange. Minimum gold purity is 99.95%.



### Kilobars

The kilobar (1000 g) is the world's most widely traded small gold bar. While most have a flat "international" shape, traditional kilobars in the shape of a "brick" are still available, notably in Europe. The gold purity is normally 99.5%, 99.9% or 99.99%.



### Smaller Cast Bars – Gram

Many manufacturers worldwide produce small cast gold bars, weighing 500 g and less. The most popular weights are 500 g, 250 g and 100 g. The smallest cast bar is the 10 g, manufactured by Umicore (Brazil) since 2006.



### Small Cast Bars – Troy Ounce

Few small cast gold bars in troy ounces are now made by accredited refiners. The Perth Mint (Australia) is the only accredited manufacturer to issue an extensive range: from 50 oz to 1/2 oz.



### Tola Bars

The tola is an Indian unit of weight. The most popular gold tola bar is the 10 tola, equivalent to 3.75 oz or 116.64 g. Its gold purity is normally 99.9%. 10 tola bars are traded mainly in the Middle East and Indian Sub-continent. 10 tola bars are distinctive in two ways. They have smooth, rounded edges and, in the past, were an ideal size for smuggling, inside a smuggler's body, if necessary. Most have no serial numbers.



### Tael Bars

A tael is a Chinese unit of weight. One tael in Hong Kong is equivalent to 1.20337 oz or 37.429 g. The most popular gold bar is the 5 tael "biscuit" (6.017 oz or 187.15 g). Its gold purity is normally 99%. In Hong Kong, The Chinese Gold & Silver Exchange Society (founded in 1910) lists eight good delivery 5 tael bars for use in transactions on the Exchange.



### Baht Bars

The baht is a Thai unit of weight. The most popular gold bar is the 10 baht "biscuit", equivalent to 152.44 g or 4.901 oz. The traditional gold purity of baht bars is unusual: 96.5%. Weights range from 1 baht to 100 baht.



### Bars Issued by Banks

Many banks have issued cast gold bars, marked with their own name but manufactured by an external manufacturer. Swiss refiners dominate the manufacture of customized bars for banks in Europe and the Middle East. Important bank bars, traded internationally, include those issued by Commerzbank (Germany), Credit Suisse (Switzerland) and UBS (Switzerland).



### Compressed Cast Bars

Unusual cast bars, which have smooth, even surfaces on all sides, were issued by Zhongjin (China) in 2006. The smooth appearance is achieved by compressing the molten gold, as it cools, in the bar mould, and then polishing the bar. Bar weights: 50 g, 100 g, 200 g, 500 g and 1000 g.



### Bas-Relief Bars

In Thailand, gold bars with the manufacturer's marks in bas-relief are still widely traded. The marks, carved into the base of the bar mould, are formed when molten gold is poured into the mould. This traditional method of marking cast bars eliminates the need for conventional marking tools: dies, punches and hammers. Most weights range between 10 baht and 100 baht.



### Boat Bars

Gold bars, described as “boats”, are manufactured in Thailand, Hong Kong and China. The traditional “boat” shape has been used for silver and other Chinese coinage as far back as the Han dynasty (206 BC – 220 AD). Weight range: 2.5 baht to 20 baht (Thailand), 1 tael to 10 tael (Hong Kong), 50 g to 1000 g (China).



### Block Bars

In 1993, Hing Fung (Hong Kong) manufactured unusual gold “block” bars for the Hong Kong market. Weight: 10 taels.



### Square Bars

Square cast bars, widely manufactured in the past, are still produced in Australia and Thailand. AGR Matthey (Australia) has issued a square 1 oz bar since 1976. Lang Hong (Thailand) has issued square 1, 2 and 3 baht bars since 2005.



### Round Bars

Round cast bars are known to be manufactured in Australia and Thailand. AGR Matthey (Australia) has issued a round 1/2 oz bar since 1976. Toa Kang (Thailand) has issued round 1 and 3 baht bars since 1972.



### Oval Bars

Yoo Long Kim Kee is the first, among known manufacturers worldwide, to produce standard cast gold bars in an oval shape. Weights: 1, 2 and 3 baht. They were launched in 2000.





### Twin-Coin Bars

Yoo Long Kim Kee (Thailand) is the first known refiner to manufacture decorative cast gold bars to a precise weight through injecting gold, under pressure, into an enclosed mould. Known as “twin-coin” bars, they were first manufactured in 1992. Weights: 1, 2, 4 and 5 baht.



### Yin-Yang Bars

Ishifuku (Japan) manufactured unusual “Yin-Yang” gold bars from 1993 until 2001. The pair of innovative kidney-shaped bars depicts the Yen religious symbol representing the harmony of opposites. Each bar weighs 150 g.



### Bone Bars

Degussa (Brazil) manufactured a range of innovative gold bars in an unconventional “bone” shape in 1982. The Industry Collection includes a 100 g bar.



### Doughnut Bars

Gold bars, described as “doughnuts”, are still manufactured in Hong Kong and Thailand. The doughnut is a traditional Chinese shape for coinage. The hole enables many bars to be securely stacked together on wooden rods or bound together with string. Popular weights are the 1 tael (Hong Kong) and 2 baht (Thailand).



### Tezabi Bars

Round “tezabi” gold bars are manufactured by small “backyard” bar manufacturers in Pakistan to a theoretical 99.9% gold purity. The bars are not made to a precise size, their weight dependent on the variable amount of gold, usually old gold jewellery, melted in the crucible. The method of manufacture closely resembles that used to make the world’s first gold coins in Turkey more than 2,500 years ago. The bars in the Industry Collection have weights ranging from 4.8 g to 10.9 g.



### Coiled Bars

Crude “coiled” gold bars, in the shape of finger rings or bangles, have been popular in India for investment purposes for decades, not least over the period 1963-1990, when it was illegal for Indians to own gold in the form of standard bars, but not illegal to own “jewellery”. To facilitate their tradability, the coiled bars normally have precise weights, ranging from 0.5 g to more than 100 g. They are normally cut from cast strips of gold and then coiled.



Illustration

### Honeycomb Bars

Loo Chang Huat (Thailand) still manufactures “honeycomb” gold bars by blowing on the surface of the molten gold as it cools. The cracked surface enables the buyer to confirm that the bar is made entirely from gold. Although now rarely made, honeycomb bars were widely traded in Thailand until the 1970s. Most weights exceed 25 baht.



### Plate bars

Some refiners manufacture large quantities of “plate” gold bars, which are cut from a thick strip of rolled gold into irregular weights, normally for use by fabricators. The Industry Collection includes plate bars from Turkey. The gold purity is 99.5%. The bars, which bear the official stamp of the refiner, can weigh more than 1000 g.



### Unmarked Refined Bars

Many refiners, large and small, manufacture cast bars in rectangular, rod and other shapes, which have no (or few) markings, for use mainly by fabricators and for internal use. Most have variable weights.



### Mine Doré Bars

Most major mines process their gold-bearing ore at the site of the mine, producing low purity “doré” gold bars. The cast bars have variable weights, sometimes weighing as much as 25 kg, and have few or no markings. They are normally sent to gold refineries for further refining into bars of high purity (99.5% or more).



### Garimpo Doré Bars

“Garimpo” doré gold bars are made by garimpeiros, Brazilian peasants who mine gold independently or in small groups. Garimpo cast bar weights in the Industry Collection range from 18 g to 148 g. The gold purity varies from 68% to 95%.



### Melted Scrap Bars

As there are no large refiners in Iran, small melting units recycle large quantities of old gold jewellery into “melted scrap bars”, normally for use by fabricators. These rough gold bars have variable weights and purities. Once assayed and marked by a private assay laboratory, they are widely traded. The bars are normally priced per mesghal (4.6083 g), a traditional Iranian unit of weight. Weights can exceed 100 mesghal.



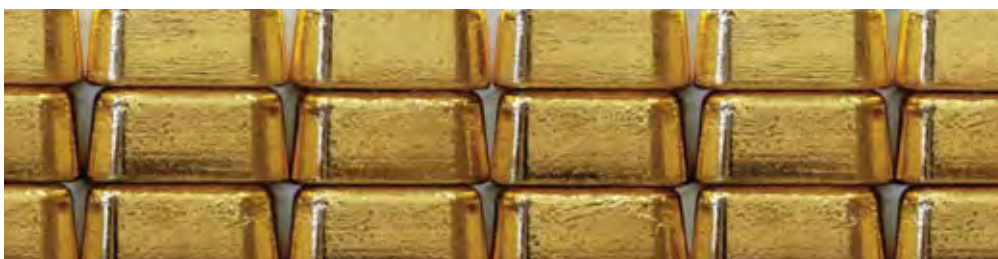
### Fillet Bars

Australian Gold Refineries, known as AGR Matthey since 2002, produced thin gold “fillet” bars in 1995 to record the marks applied at that time to 400 oz bars manufactured by its gold refineries in Perth and Kalgoorlie. The bars weigh approximately 5 oz.



### Model Bars

LG Metals (South Korea) issued, in 1991, a traditional range of gold “model bars” in the form of pigs (a symbol of wealth), toads (good fortune) and turtles (longevity). Denominated in dons, a Korean unit of weight, (1 don = 3.75 g), they are normally traded at a relatively low premium above the value of their gold content. Model bars in the Industry Collection weigh 3 don, 5 don and 10 don. They are popular as gifts of “money” at weddings and anniversaries.





## MINTED BARS

### Minted Bars – Gram

Minted gold bars are a modern phenomenon. Among accredited manufacturers, Argor-Heraeus (Switzerland) is believed to have been the first to issue a range, in 1952. Standard minted bars are now manufactured in rectangular, round and oval shapes. Internationally, gram weights range from 1000 g to 0.3 g.



### Minted Bars – Troy Ounce

Minted gold bars in troy ounces range in weight from 10 oz to 1/4 oz. They are manufactured in rectangular, round and oval shapes. The most widely manufactured bar is the rectangular 1 oz bar. Although traded in many countries, the US has been the most important market for minted troy ounce bars.



### Minted Bars – Tola

Minted gold bars, denominated in tolas, are manufactured mainly for the Middle East and Indian Sub-Continent. Among accredited manufacturers, Valcambi (Switzerland) issues the most extensive range of minted rectangular and round tola bars, since 2005. The Industry Collection also includes round minted tola bars manufactured in Pakistan.



### Minted Bars – Tael

Few gold bars, denominated in taels, have been minted. Hang Seng Bank (Hong Kong) issued a range of 5, 1, 1/2 and 1/5 tael bars, minted by The Royal Mint (United Kingdom) in 1997. Credit Suisse (Switzerland) issued a 1 tael bar, minted by Valcambi (Switzerland) in the traditional biscuit shape in 1988.



### Minted Bars – Baht

Chin Hua Heng is the first manufacturer in Thailand to mint 10 baht and 5 baht gold bars in the traditional “biscuit” shape. They were launched in 2006. The company’s official stamp features the elephant, a national symbol of Thailand.



### Minted Bars – Chi

The chi (or luong) is a Vietnamese unit of weight. 1 chi weighs 3.75 g. 10 chi (or 1 cay or 1 luong) weighs 37.5 g. Saigon Jewellery and Phu Nhuan (Vietnam) have minted chi gold bars since the early 1990s. PAMP (Switzerland) was the first among accredited manufacturers to produce a range of chi-denominated minted bars for Vietnam, in 1994.



### Minted Bars – Round

Within India, round investment products, traditionally known as “coins”, are widely manufactured. Among accredited manufacturers, PAMP (Switzerland) progressively during the 1990s, and Valcambi (Switzerland) since 2003, have issued an extensive range for the international market. Weights: 0.5 g – 100 g, 1/10 oz – 1 oz.



### Minted Bars – Oval

PAMP (Switzerland) has issued an extensive range of oval minted bars, as an alternative to bars in conventional rectangular shapes, since 1995. Weights: 1 g – 50 g, 1/4 oz – 1 oz.



### Minted Bars – Issued by Banks

Many banks have issued minted gold bars, marked with their own name but manufactured by an external manufacturer. Swiss refiners dominate the manufacture of customized bars for banks in Europe, the Middle East and India. Important bank bars, traded internationally, include those issued by Commerzbank (Germany), Credit Suisse (Switzerland) and UBS (Switzerland).



### Minted Bars – Issued by Mints

National mints have issued their own range of minted gold bars as an alternative to the gold bullion coins that they normally manufacture. Notably, the Austrian Mint (since 1995), the Royal Canadian Mint (since 2001) and the Perth Mint (since 2005).



### Decorative Bars

The application of a decorative design to the reverse side of a standard minted gold bar has occurred since the early 1980s. Many manufacturers now incorporate a design on the reverse side of all their standard minted bars.



### Hologram Bars

PAMP (Switzerland) pioneered the application of multi-coloured hologram designs to minted gold bars in 1990. These 3-dimensional decorative bars are especially popular in the Middle East.



### Kinebars®

Kinebars® are minted gold bars that depict on their reverse side a KINEGRAM®, a two-dimensional image which appears in a variety of colours when illuminated with white light. Argor-Heraeus (Switzerland) is the only accredited manufacturer worldwide to produce kinebars®. These innovative bars were launched in 1993.



### Full Colour Bars

One-dimensional designs in full colour have been applied to decorative gold bars. In 1996, PAMP (Switzerland) issued a range of 10 g oval pendant bars depicting mythological characters in full colour for the Indian market.



### Commemorative Bars

Some manufacturers, notably Degussa (Germany) and Degussa (Brazil), issued minted gold bars in the 1990s that commemorated important national or international events.



### Heart Bars

Minted "heart" gold bars, defined as heart-shaped or incorporating a heart design, were first made by PAMP (Switzerland) in 1994.



### Pendant Bars

In 1978, Degussa (Germany) is recorded as the first accredited manufacturer to have issued a standard minted bar in an unconventional (octagonal) shape, as well as incorporating a hole to facilitate its use as a pendant. In 1984, PAMP (Switzerland) expanded the concept, pioneering the production of standard minted bars in unusual shapes, as well as incorporating holes and hangers.



### Double-Pendant Bars

In 1996, PAMP (Switzerland) launched "double-pendant" gold bars in the Middle East. A circular outer bar encloses an inner bar: heart or circular. The bars in the Industry Collection weigh 10 g and 5 g.



### Koban Bars

Tokuriki Honten (Japan) has manufactured attractive "Koban" gold bars since the early 1960s, ranging from 5 g to 50 g. The bars commemorate the oval shape of traditional Japanese coinage issued between the 16th and 19th centuries.



### Gold Leaf Bars

From the 1930s (est) until the 1970s, unusual “gold leaf” bars were widely manufactured in Vietnam. The standard bar weight is approximately 15 g, although they were also sold in lengths of 2 1/2 bars that weigh approximately 37.5 g. Their thinness makes them extremely portable, easily placed inside shoes, sewn into the lining of clothes or rolled into narrow tubes. Thousands of these bars, smuggled by Vietnamese refugees, were sold to gold dealers around the world in the 1970s.



### Fine Art Bars

The Singapore Mint issued two series of innovative minted gold bars in 1994. Balinese Girl (75 g) is one of 4 decorative “Fine Art” bars. The bars were issued at a fixed price.



### Talisman Bars

PAMP (Switzerland) has manufactured an innovative range of minted “talisman” gold bars since 2007. Known as “FORS talismans”, they are issued in six different shapes, each representing a symbol of good fortune. The bars weigh between 2 g and 15 g with a gold purity of 18 carat (75%). The bars are issued at a fixed price.



### Fine Gold Cards

Fine gold cards, pioneered by Mitsubishi (Japan) in the late 1980s, enable multi-coloured printed designs to be applied to their smooth surfaces. Although gold cards up to 1000 g are available, the 1 g card is the most widely sold in Japan. They are issued at a relatively high premium.



### Rainbow Bars

Mitsubishi (Japan) manufactured experimental minted “rainbow” gold bars in 1993. The manufacturing process combined different carat gold colour tones in order to create an infinite variety of attractive patterns.



Refer to disclaimer on website: [www.goldbarsworldwide.com](http://www.goldbarsworldwide.com)

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