

THE TEST MANUAL FOR CARAT WEIGHTS

1.0 GENERAL

This manual deals with the requirements for carat weights intended for use in weighing pearls, diamonds and other precious stones.

2.0 DENOMINATIONS

The denominations of carat weights shall be as given below (the gram and milligram equivalents are shown against each other for ready reference):

(a) Knob Weights

<i>Denominations in carat</i>	<i>Equivalents in grams (g)</i>
<i>500</i>	<i>100</i>
<i>200</i>	<i>40</i>
<i>100</i>	<i>20</i>
<i>50</i>	<i>10</i>
<i>20</i>	<i>4</i>
<i>10</i>	<i>2</i>
<i>5</i>	<i>1</i>

(b) Sheet Metal Weights

<i>Denominations in carats</i>	<i>Equivalents in milligrams (mg)</i>
<i>2</i>	<i>400</i>
<i>1</i>	<i>200</i>
<i>0.5</i>	<i>100</i>
<i>0.2</i>	<i>40</i>
<i>0.1</i>	<i>20</i>
<i>0.05</i>	<i>10</i>
<i>0.02</i>	<i>4</i>
<i>0.01</i>	<i>2</i>
<i>0.005</i>	<i>1</i>

3.0 KNOB WEIGHTS

(a) MATERIALS

- (i) The weights shall be made from rolled, drawn or extruded material and shall not be cast.
- (ii) The weights shall be made from brass, bronze, gun metal, nickel-chromium alloy or non-magnetic stainless steel.

(b) SHAPE AND DIMENSIONS

The shape of the weights shall be in hexagonal, square, rectangular or Triangular. The dimensions shall be as specified in respective tables and sketches. The tolerances on dimensions shall be ± 10 per cent.

(c) PERMISSIBLE ERRORS:

The maximum permissible errors shall be as specified below:

<i>Denomination</i>	<i>Verification</i>	<i>Inspection</i>
<i>Carat</i>	<i>mg</i>	<i>Mg</i>
<i>500</i>	<i>5.0</i>	<i>± 5.0</i>
<i>200</i>	<i>3.0</i>	<i>± 3.0</i>
<i>100</i>	<i>2.5</i>	<i>± 2.5</i>
<i>50</i>	<i>2.0</i>	<i>± 2.0</i>
<i>20</i>	<i>1.5</i>	<i>± 1.5</i>
<i>10</i>	<i>1.2</i>	<i>± 1.2</i>
<i>5</i>	<i>1.0</i>	<i>± 1.0</i>

4.0 SHEET METAL WEIGHTS

(a) MATERIALS:

Weights of denominations of 0.2 carat and below shall be made of aluminium sheet. Weights of higher denominations shall be made of sheet of brass, aluminium, nickel-silver, nickel-chromium alloy, bronze or cupronickel.

(b) SHAPE AND DIMENSIONS

Sheet metal weights shall be square with one edge bent for ease of handling. The dimensions shall be as specified in table 10; as per sketches. The tolerances on dimensions shall be ± 10 per cent.

(c) PERMISSIBLE ERROR:

The maximum permissible errors shall be as specified below:

<i>Denomination</i>	<i>Verification</i>	<i>Inspection</i>
<i>Carat</i>	<i>mg</i>	<i>mg</i>
<i>2</i>	<i>0.8</i>	<i>±0.8</i>
<i>1</i>	<i>0.6</i>	<i>±0.6</i>
<i>0.5</i>	<i>0.5</i>	<i>±0.5</i>
<i>0.2</i>	<i>0.4</i>	<i>±0.4</i>
<i>0.1</i>	<i>0.3</i>	<i>±0.3</i>
<i>0.05</i>	<i>0.25</i>	<i>±0.25</i>
<i>0.02</i>	<i>0.20</i>	<i>±0.20</i>
<i>0.01</i>	<i>0.20</i>	<i>±0.20</i>
<i>0.005</i>	<i>0.20</i>	<i>±0.20</i>

5.0 MANUFACTURE AND FINISH:

- (a) The surface of the weights shall be reasonably smooth. Sheet metal weights shall be smoothly sheared and shall be free from burrs.
- (b) For better stability and finish, the weights may be nickel, or rhodium plated.

6.0 MARKING:

- (a) Every weight, except weight of 50 carat and lower denominations, shall have the Manufacturer's name or trade mark and the denomination indelibly marked on it.
- (b) The denomination shall consist of the International form of numeral prefixed and suffixed by the letter 'c', except that in the case of weights below 50 carat, only the numerals shall be marked. The size of numerals and letters indicating the denomination of weights shall be at least twice the size of letters indicating the manufacturer's name or trademark.
- (c) The marking shall be legible and deep enough to ensure indelibility over a long period of use, but not so deep as to crack the weight itself.

7.0 PARKING:

- (a) Each set of carat weights shall, in addition to the series of denomination specified under 2, consist of an additional piece of weight or the relevant decimal multiple of two.
- (b) The weights shall be supplied in a suitable velvet-lined box. The small sheet metal weights shall be housed and provided with a cover of glass or any other transparent material that they will not get dislodged from their proper places. The box shall also contain a pair of forceps for lifting the weights.