

JIS

JAPANESE INDUSTRIAL STANDARD

Testing Methods for Color of Petroleum Products

JIS K 2580—1980

Translated and Published

by

Japanese Standards Association

Printed in Japan

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

JAPANESE INDUSTRIAL STANDARD

J I S

Testing Methods for Color of
Petroleum ProductsK 2580-1980
(Reaffirmed: 1985)1. Scope

This Japanese Industrial Standard specifies the testing methods for color of petroleum products.

2. Definitions

For the purpose of this Standard following definitions apply:

- (1) saybolt color The symbol to express brightness of sample obtained by comparing the transmitted lights of standard color glass specified in 4.2.2 (4) and of sample according to the specified method, and is expressed by + 30 (most bright) to -16 (most dark).
- (2) ASTM color The symbol to express the color of sample obtained by comparing the colors of standard color glass specified in 4.3.2 (2) and of sample according to the specified method and is expressed by 0.5 (faint) to 8 (dense).

3. Classification of Testing Methods

The testing methods for color shall be classified into two styles shown in Table 1.

Table 1. Classification of Testing Methods

Testing method	Applicable kinds of oil (example)
Saybolt color	Kerosine, liquid paraffin, paraffin wax
ASTM color	Each kind of lubricating oil, petrolatum, microcrystalline wax

4. Testing Methods

4.1 Tester General The tester shall, under the ordinary using condition, have no fear to generate risk, have sufficient endurance, correct shape, good assembly, and, not cause mechanical and electrical failures. Further, the insulation resistance of heater shall, when measured between the charge part and the underframe, be not less than 5 M Ω . However, in the case of including electric heat circuit, it may be not less than 0.5 M Ω .

Applicable Standards:

JIS C 7501-Incandescent Lamps for General Lighting Service

JIS K 2839-Glassware for Testing Apparatus of Petroleum Products

JIS Z 8722-Methods of Measurement for Colour of Reflecting or Transmitting Objects

4.2 Testing Method for Saybolt Color

4.2.1 Summary of Testing Method The height of sample is lowered according to the scale of sample height of Table 3 until the brightness of sample in glass tube for sample becomes clearly more bright than the standard color glass.

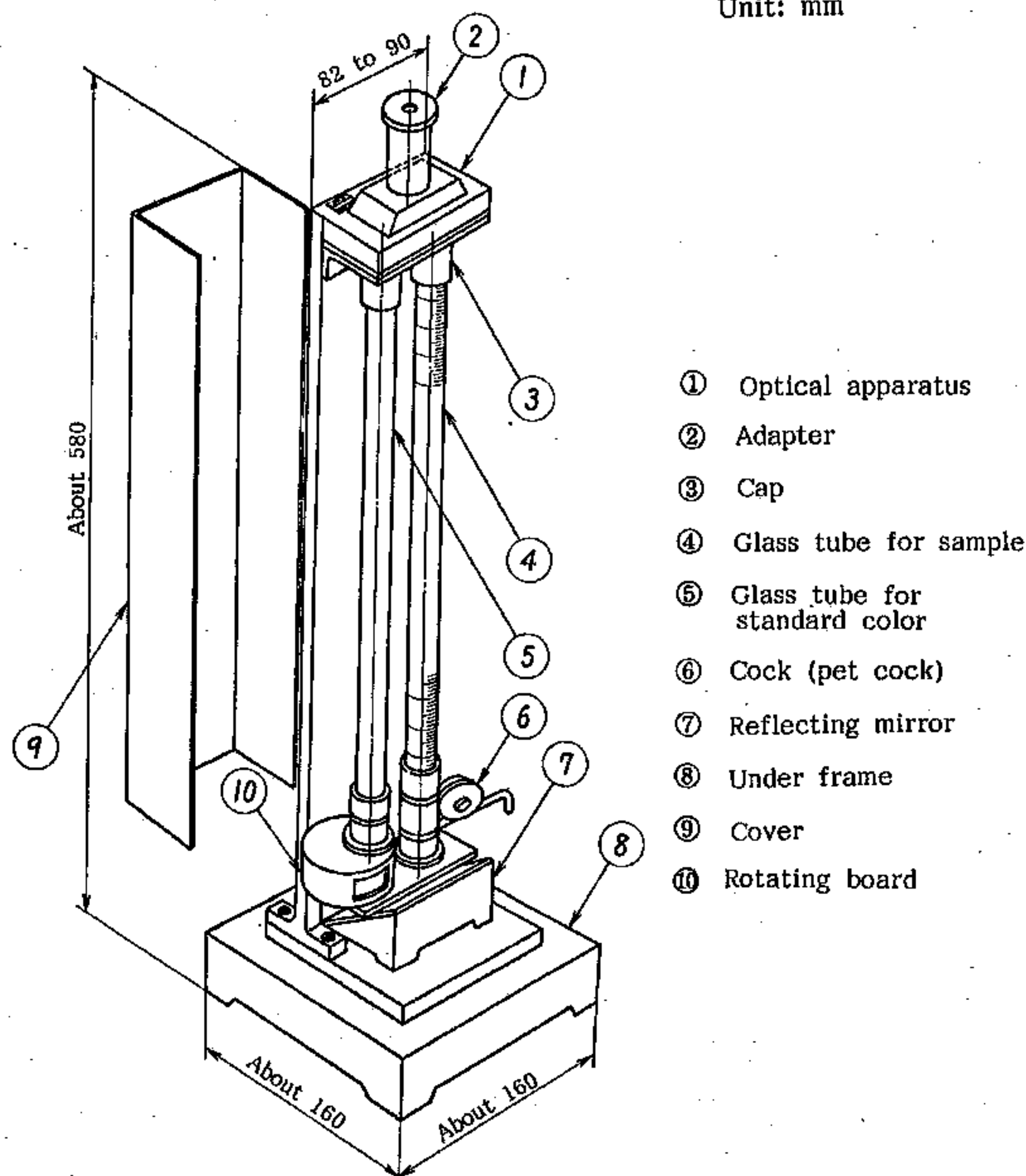
The symbol of color corresponding to the sample height scale higher by one stage than the thus obtained scale shall be taken as the Saybolt color.

4.2.2 Saybolt Color Tester The tester has structure and dimensions shown in Fig. 1 and consists of those given in (1) to (7).

Further, when the tester is assembled, metallic stop plate is detached from the bottom part of glass tube for standard color, and both the glass tube for standard color and glass tube for sample, when under the empty condition specified light source and reflecting mirror are used, shall be same in the light intensity of equally divided two part of visual field.

Fig. 1. Saybolt Color Tester (An Example)

Unit: mm



- Further, between turning lines, subscale marks dividing into 8 equal parts shall be notched. The transparent glass disc shall be 6.25 mm in thickness and, be colorless, flat without streaks and flaws. The metallic circular cylinder shall be made of brass and, black dull-plating finished, and, of such structure that the hard glass tube with scale and transparent glass disc can be detached for washing. The cap shall be made of metal, and is covered on the hard glass tube.

Fig. 2. Glass Tube for Sample and Cap



- (2) Heater for Paraffin Wax Sample The heater of such structure that the glass tube for sample specified in (1) is covered with a heater of 100 V 60 W of structure and dimensions shown in Fig. 3 to keep the sample at liquidous state and to be suitable for reading the scale.
- (3) Glass Tube for Standard Color The hard glass tube of dimensions shown in Fig. 4 is attached at the lower part with a metallic circular cylinder which is made of brass and dull-plating-finished and a rotating board (in some cases there is no rotating board). The metallic circular cylinder or rotating board shall be able to be attached and detached with metal stop plate of inner diameter of 12 ± 0.1 mm, the rotating board is fixed with standard color glasses of two sheets of whole thickness, one sheet of whole thickness and one sheet of half thickness and so made that when standard color glass is exchanged, the optical axis coincides.

Further, on the upper part of hard glass tube shall be covered with the same cap as in (1).

Fig. 3. Heater for Paraffin Wax Sample
(An Example)

Unit: mm

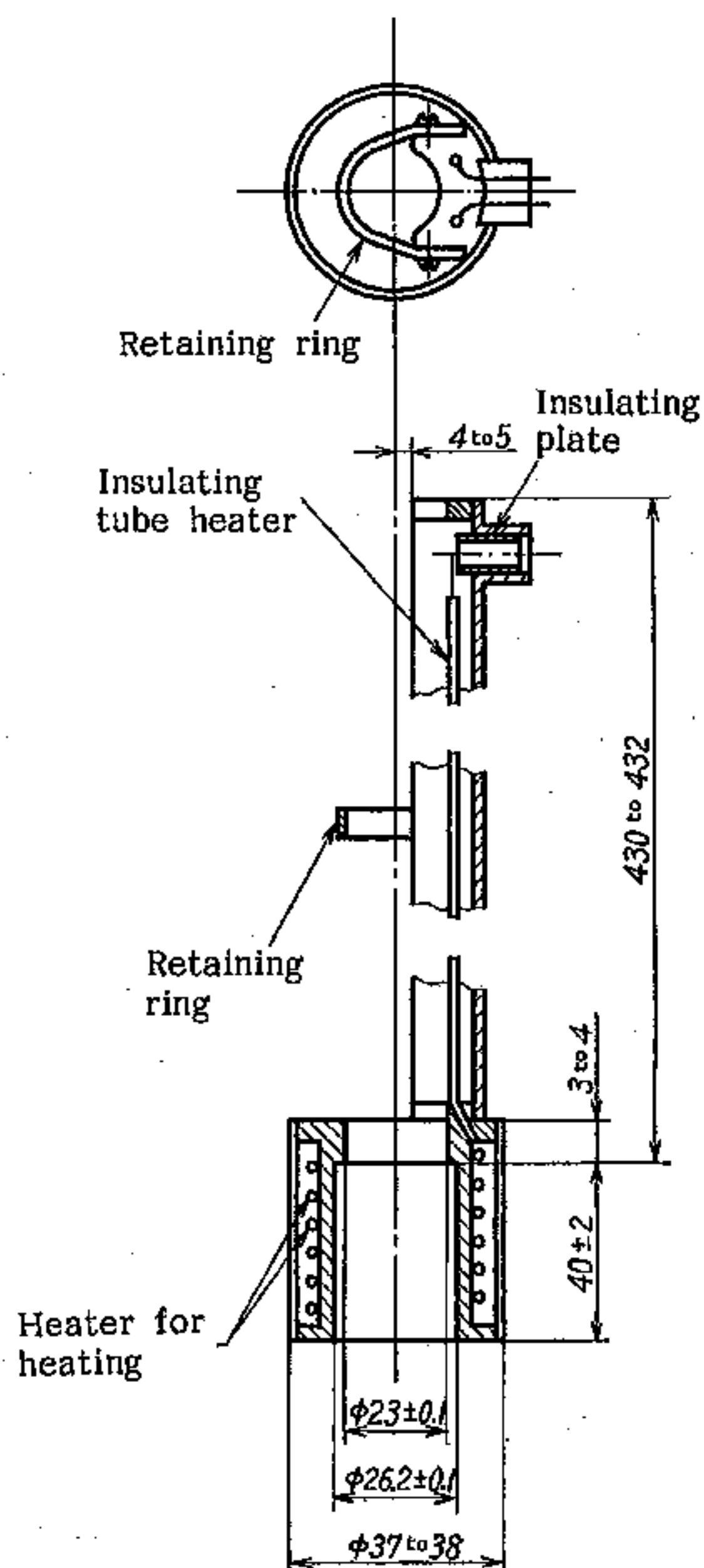
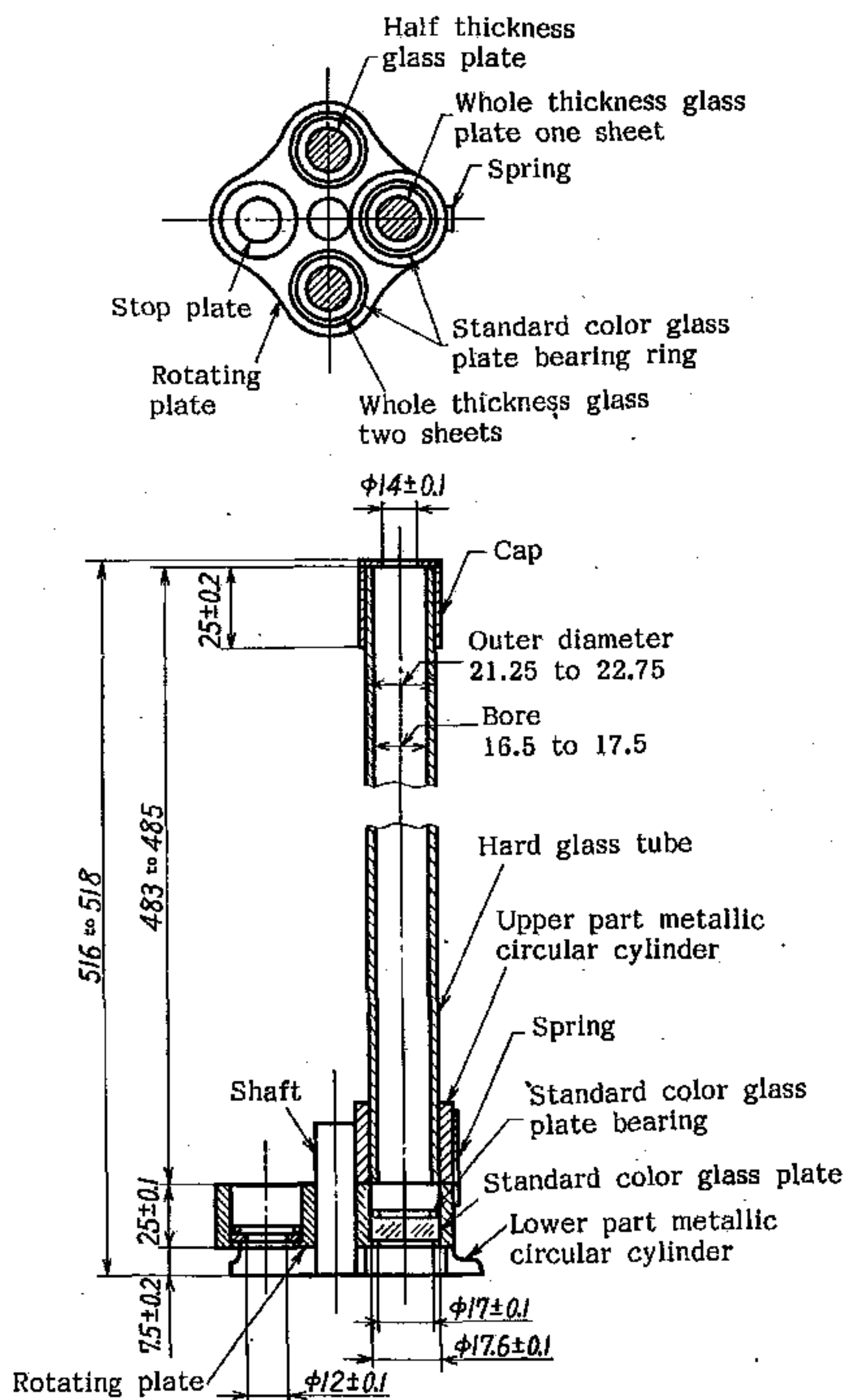


Fig. 4. Glass Tube for Standard Color
(An Example)

Unit: mm



- (4) **Standard Color Glass** The standard color glass shall be whole thickness plate and half thickness plate having chromaticity characteristics of Table 2. The chromaticity coordinates x , y , z and luminous transmittance Y_0 shall, when calculated from spectral transmittance obtained by using standard C light source of JIS Z 8722, be the values shown in Table 2.