COMMERCIAL ITEM DESCRIPTION

STOP WATCH, LABORATORY

The General Services Administration has authorized the use of this commercial item description in preference to Federal Specification GG-S-764C, Type I, Class 2.

This description covers single action laboratory stop watches having a minimum of seven jewels that are controlled by sucessively depressing the crown or a push-piece extending through the crown which will cause the hands to start, stop or fly back to zero.

Salient characteristics.

Positions. Watches shall be adjustable for three positions; Vertical, pendant-up; Horizontal, dial-up; Tilted 45 degrees, pendant-up, dial-up.

Case. Shall be of inherently corrosion-resistant metal, fiberglass, plastic. Covers, bezels, crystals and all points of separation shall be fashioned such that they can be disassembled and reassembled as required for maintenance.

Crystal. The crystal shall be clear, uncolored, free of bubbles, scratches or other imperfections which are visible to an unaided eye with 20/20 vision or its equivalent.

Dial and hands. The dial shall be a clear white enamel on metal with arabic numerals. The value of the smallest readable graduation shall be no greater than 1/5 second. Each graduation representing a full second shall be emphasized and no graduation shall be omitted. Each watch shall be provided with a minute register, the capacity of which shall be at least 30 seconds.

Winding. All watches shall be stem wound.

Jeweling. All jewels shall be of natural or synthetic sapphire, ruby or garnet.

Temperature variation. Shall be compensated for operation over the range of 5 to 35 degree C.

Assembly. Shall be designed in a manner to permit easy assembly and disassembly.

Marking on watches. Each watch shall bear the inscription "U.S. Government" and either the manufacturer's name or brand name shall appear on the dial or engraved on the back of the case.

Workmanship. Watches to be free from defects which might impair durability, appearance or serviceability.

Tests.

Order of tests. The inspections and tests shall be performed in same order as they appear in this document.

Winding torque. The winding torque is to be measured by a suitable torque gage. The winding torque shall not exceed 6 in-oz to fully wind. There shall be no motion or slippage of the crown when a torque of 32 in-oz. is applied to the crown of a fully wound watch.

Operating force. The force required on the operating mechanism to start, stop or return the hands to zero shall not exceed 5.5 pounds.

Start, stop and flyback mechanism. The flyback mechanism shall be capable of withstanding 7500 crown operations so as to accomplish a complete cycle of start, stop and flyback 2500 times. This test may be conducted by any manual or mechanical means provided the sweep hand is permitted to advance 20 seconds before each "stop" operation.

Dustproofness. This test may be performed by any apparatus capable of impressing a pressure drop equal to one inch of water between the inside and outside of the watchcase. Under this condition, the leakage of air through the case shall not exceed 400 cc of air per minute.

Magnetization. After exposure to a magnetic field of 60 gauss for 5 seconds, and when placed in the positions specified, watches shall suffer no change in rate in excess of 4 seconds in 6 hours.

Timing tests. Each watch in the sample shall be subjected to the following timing tests and shall not exceed the allowed tolerances specified below:

No.	Criteria	Tolerance (sec)
1	Correction 3-hour run*	2
2	Correction 6-hour run*	4
3	Max difference between the 3-hour correction and 1/2 of the 6-hour correction.	0.5
4	Max difference between the 3-hour corrections in the specified positions	4

* In H-DU position
*~ Each watch shall be subjected to the following temperature tests:

(a) Operated at 5 degree C. for 6 hours in the H-DU position after first being allowed to attain the test temperature.
(b) Operated at 35 degree C. for 6 hours in the H-DU position after first being allowed to attain the test temperature.
(c) Test for accuracy in accordance with "Accuracy Test" paragraph after first being allowed to attain room temperature.

All watches shall be operated for 6 hours at room temperature, 2 hours in each of the positions specified.

Government tests may be performed with a watch rate recorder in lieu of, or in addition to other equipment for timekeeping tests.

Shock. The watch shall show no evidence of physical damage after one uncontrolled drop, while running, from a height of 30 inches, onto a hardwood block of beech, oak or hard maple, a minimum of 8 inches square. The block shall be surrounded by a soft, resilient material to protect the watch when it bounces of the block. Immediately after the drop all functions of the watch must be operational for a minimum of two hour and shall be compliance with "Accuracy Test" paragraph.

Accuracy test. Each watch in the sample shall be checked on a Master Model 057 Recorder and Model 386 Hair Spring Vibrator or equipment of similar characteristics and quality. The watch must be adjustable to pass the test. The accuracy must be within 2 seconds.

Quality Assurance Provisions.

Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein.

Sampling. Sampling for inspection and tests shall be performed in accordance with MIL-STD-105. For purposes of sampling a lot shall consist of all stopwatches manufactured under the same conditions at essentially the same time.

External visual inspection. Sampling shall be in accordance with Inspection Level II. The AQL shall not exceed 4.0 percent defective.

Internal visual inspection. Sampling shall in accordance with Inspection Level S-3. The AQL shall not exceed 2.5 percent defective.

Tests. Sampling for tests shall be in accordance with Inspection Level S-3. The AQL shall not exceed 1.0 percent defective.

Regulatory requirements. In accordance with section 23.403 of the Federal Acquisition Regulations, The Government's policy is to acquire items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing supplier's employees to undue hazards from the recovered materials.

Preservation, packaging, packing, labeling and marking. The preservation, packaging, packing, labeling and marking shall be as specified in the contract or purchase order.

Note: Purchaser shall specify NSN 6645-00-250-4680 when ordering.

MILITARY INTERESTS:

Coordinating activity:

Air Force - 82

PREPARING ACTIVITY:

GSA - FSS