EQUIPMENT

1. OVEN: double-walled electrically heated convection type, inside dimensions H 381 x W 483 x D 445 ± 13 mm equipped with:
   a) window made of double sheet heat resistant glass separated by air space, 305 -330 mm wide by 203 -229 mm high ____
   b) air plenum covering side walls and ceiling, 38 mm air space between plenum and oven walls ____
   c) heating element below floor ____
   d) vented at bottom, incoming air, open space 15 ± 0.7 cm^3 and top, effluent air, open space 9.3 ± 0.45 cm^3 ____
   e) internal squirrel cage type air circulating fan at mid , 133.4 mm O.D. by 73 mm wide turning at 1725 R/min ____
   f) fan rotates in opposite direction to vanes ____
   g) proportional control thermostat to maintain internal temperature at 163 ± 1.0°C ____
   h) thermostat sensing device located approx. 25 mm from left side,38 mm from top and 203 mm from rear of chamber ____
   i) thermometer hung from ceiling 51 mm from right side of oven and midpoint in depth with bulb located within 25 mm of level of shaft of sample carriage ____
   j) vertical carriage of 305 mm dia. holding 8 glass sample bottles and rotating at 15 ± 0.2R/m ____
   k) air jet with outlet orfice of 1.02 mm dia. located 19 mm
   l) predried dust-free air regulated at rate of 4000ml/min directed horizontally into center of opening of passing bottles at the lowest point of travel ____
   m) activated silica gel treated with indicator used as desiccant for air drier ____
2. FLOWMETER: capable of accurately measuring airflow at rate of 4000 ± 100 mL/min ***(records)*** ____
   a) located downstream of all regulating devices and upstream of air jet and calibrated periodically ____
3. THERMOMETER: ASTM 13C loss on heat type with accuracy of 0.2ºC or thermometric device capable of indicating temperature within 0.1ºC ***(records)*** ____
4. SAMPLE CONTAINERS: heat resistant glass of prescribed dimensions ____
5. BALANCE: readability/sensitivity for mass loss is 0.001 g: for weight loss otherwise 0.1 g ***(records)*** ____
6. COOLING RACK: allows sample containers to cool in a horizontal position (free space between containers of 25 mm) ____
7. RESIDUE CONTAINER: capacity at least 30 % greater than anticipated volume ____

PROCEDURE

1. SAMPLE PREPARATION: ***(demo)***
   a) water free bulk sample preheated to pouring consistency (not above 163°C) for minimum time with stirring ____
   b) sample poured into each container (35 ± 0.5 g) ____
   c) containers containing sample placed immediately in cooling rack and cooled to room temperature without rotating ____

d) cooled at room temperature for 60 min (minimum) to 180 min (maximum)..... ____
e) two containers used when mass change is being determined, mass of sample determined to 0.001g..... ____

2. OVEN PREPARATION: ***(demo)***
   a) oven operating conditions set using empty containers and required air flow..... ____
   b) oven preheated for minimum of 2 hr before running samples..... ____
   c) with oven set at operating conditions (see above) containers introduced into carriage so that a proper balance is maintained ..... ____
   d) blank spaces filled with empty bottles (if only mass l-/+ determination is called for)..... ____

2. RTFOT TEST: ***(demo)***
   a) test temperature reached within 10 min, otherwise test discontinued..... ____
   b) after 85 minutes samples transferred by pouring and scraping into single container; average 90 % recovery per bottle..... ____
   c) oven operating conditions maintained while transfer of samples taking place..... ____
   d) oven door shut between removal of individual bottles..... ____
   e) total time elapsed during sample transfer not to be greater than 5 min ..... ____
   f) sample homogenized by gentle stirring (no air bubbles) and tested within 72 hours..... ____
   g) for mass loss, samples placed horizontally on cooling rack, cooled for 60 to 180 minutes, weighed to nearest 0.001g..... ____
   h) samples for mass change not used for other testing..... ____

REPORT

1. MASS CHANGE: reported as the average of the two samples to 0.001 g loss or gain ..... ____
2. PHYSICAL CHANGES: reported via testing using appropriate tests..... ____

3. EQUIPMENT MANUFACTURER: _____
   MODEL: _____

REMARKS:

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