

X

इंटरनेट

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार" Mazdoor Kisan Shakti Sangathan "The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ" Jawaharlal Nehru "Step Out From the Old to the New"

मानक

IS 3025-9 (1984): Methods of sampling and test (physical and chemical) for water and wastewater, Part 9: Temperature [CHD 32: Environmental Protection and Waste Management]

> "ज्ञान से एक नये भारत का निर्माण″ Satyanarayan Gangaram Pitroda "Invent a New India Using Knowledge"

RIGHT TO INFORMATION "ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता Bhartrhari-Nītiśatakam "Knowledge is such a treasure which cannot be stolen"



61119/20

Made Available By Public.Resource.Org







BLANK PAGE



PROTECTED BY COPYRIGHT

UDC 628.1/3:543.3:536.5	(Second Reprint JULY 1993)	IS: 3025 (Part 9) - 1984	
· ·	Indian Standard		
ME	THODS OF SAMPLING AND CHEMICAL) FOR WATER AN PART 9 TEMPEI (First Revisio	TEST (PHYSICAL AND D WASTE WATER RATURE	
1. Scope — Prescribes met	thods for the measurement of temperatu	re of water and waste water.	
2. Principle	÷		
2.1 Temperature measuren checked occasionally again	nents may be made with any mercury st a precision thermometer certified by a	-in-glass thermometer, provided it is competent agency.	
2.2 Depth temperature m Measurements of temperatu	ay be obtained with a protected rev ure are, usually, more conveniently done	versing thermometer or a thermistor. using thermistors.	
3. Procedure			
3.1 Make measurement we time sufficient to permit co out directly, carry it out in a Adjust its temperature to the or direct solar radiation. I constant reading is obtaine	with the thermometer immersed directly nstant reading. If the measurement of w a sampling bottle. The bottle should ha nat of the sample water before the measure Measure temperature of tap water in a b d.	y in the water body, after a period of vater temperature can not be carried ave a volume of at least one litre. urement. Do not expose it to heat ottle through the water flows until a	
3.2 Make measurement of or thermistor immersed d thermometer or thermistor to of the thermistor make a di body from the calibration c	the temperature of a water body at a pa irectly in the water body. After suft to come to the exact temperature of the rect measurement of its resistance and c urve supplied with the thermistor.	rticular depth with the thermometer ficient time has elapsed to allow the water, take a reading. In the case obtain the temperature of the water	
3.3 In the case of revers the wire to which is att bottle. This weight normall is extremely inclined to the the thermometer, haul up vertical position away from temperature to be measur temperature, after they are the atmospheric temperatur body.	ing thermometer, obtain the reading by ached the reversing thermometer in a ly drops at a speed of about 150 metres evertical. After sufficient time has passe the wire and keep the water bottle direct sunlight in order to prevent accid red. Allow about 10 to 15 minutes f brought up from the water. At this stag ure and the main thermometer, the a	dropping a messenger weight along reversing frame on a water sampling per minute except when the wire of for the messenger weight to trip with the thermometer carefully in a lental reversing before reading the for the thermometers to reach the air e the auxiliary thermometer records pproximate temperature of the water	
4. Calculations — Calculations — Calculations	ate the exact temperature of the wat wing formula:	er body, in the case of the reversing	

 $T_w = T' + C + I$ $C = \frac{(T' - V_{o}) (T' - T_{1})}{K - 100}$ and

where

 T_w = the corrected value, that is, the true value of the water temperature, °C;

T' = the reading of the main thermometer, °C;

/ = the index correction given on a calibration sheet supplied with the thermometer;

C =correction for thermal expansion;

 $V_{\rm o}$ = volume of mercury below 0°C mark given on the calibration graph;

K = reciprocal thermal expansion coefficient given on the calibration graph; and

 T_1 = temperature reading of the auxiliary thermometer, °C.

Adopted 29 February 1984	© July 1985, BIS	6	Gr 1
BUR	EAU OF INDIAN S	TANDARDS	

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI 110002

IS: 3025 (Part 9) - 1984

4.1 If an unprotected reversing thermometer is used along with the protected thermometer the corrected temperature T_u can be similarly obtained. The actual depth of reversal of the thermometers can be obtained using the following equation:

$$Z = \frac{T_{\rm u} - T_{\rm w}}{P_{\rm m} - Q}$$

where

Z =depth in metres;

 T_u = corrected reading of the protected thermometer, °C;

 $T_{\rm w}$ = corrected reading of the protected thermometer, °C;

 $P_{\rm m}$ = mean density of the water column; and

Q = pressure coefficient of the unprotected thermometer given on the calibration graph.

5. Report — Report the temperature of water to the nearest 0.01, 0.1 or 0.5°C, depending on the accuracy required and the thermometer used.

EXPLANATORY NOTE

Measurements of temperature are required in studies of self-purification of rivers and reservoirs and is one of the parameters for suitability of an effluent waste discharge and for the control of waste treatment plants. Temperature of water is important in relation to aquatic biota, bathing and irrigation use. It also affects taste of water.

Accurate measurements of temperature of natural waters are essential for calculation of degrees of saturation with respect to various minerals and in study of mineral 'equilibria'. Temperature readings are used in calculation of various forms of alkalinity. In limnologic studies, temperature readings at different depths are required. In industrial plants, for process use or heat transfer calculations, temperature values are required.

This method supersedes clause 10 of IS : 2488 (Part I)-1966 'Method of sampling and test for industrial effluents, Part I'.