

Indian Standard

METHOD FOR DETERMINATION OF THERMAL DIFFUSIVITY OF FOODGRAINS

1. SCOPE

1.1 This standard prescribes a method for determination of thermal diffusivity of foodgrains.

FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 7 November 1983, after the draft finalized by the Storage Structures and Storage Management Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 In order to calculate the temperature change in a grain bin due to fluctuations in external or internal temperature and to predict the heat transfer in the foodgrains, it is essential to determine thermal diffusivity of foodgrains.

0.3 Because of different methods used by agricultural scientists for its determination it is not possible to have reproducible and repeatable values of this characteristic. This standard, therefore, prescribes a standard method for determining the thermal diffusivity of foodgrains. Adoption of this standard would enable the compilation of reliable data from all research workers on a uniform basis.

0.4 For the guidance of the design engineers, some of the determined values of thermal diffusivity are given in Appendix A.

0.5 In the preparation of this standard, considerable assistance has been drawn from the work carried at the Department of Processing and Agricultural Structures, College of Agricultural Engineering, Punjab Agricultural University, Ludhiana.

0.6 In reporting the result of a test or analysis made in accordance. With this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

*Rules for rounding off numerical values (*revised*).