
**Copper, lead, and zinc sulfide
concentrates — Determination of
transportable moisture limits —
Flow-table method**

*Concentrés sulfurés de cuivre, de plomb et de zinc — Détermination
des limites d'humidité transportable — Méthode de la table
d'écoulement*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Principle.....	1
4 Apparatus	1
5 Sampling and sample preparation	2
5.1 General.....	2
5.2 Laboratory sample	3
5.3 Sample preparation	3
6 Procedure	3
6.1 General.....	3
6.2 Preparation of test portions	4
6.2.1 General.....	4
6.2.2 Filling the mould	4
6.2.3 Tamping pressure.....	4
6.2.4 Tamping procedure	5
6.2.5 Removal of the mould	5
6.2.6 Dropping the flow table.....	5
6.3 Identification of the flow state	5
6.4 Preliminary flow moisture point	7
6.4.1 Preparation of test portion.....	7
6.4.2 Determination of preliminary flow moisture point	7
6.4.3 Addition of water for preliminary flow moisture point test	8
6.5 Main flow moisture point determination	8
6.5.1 Preparation of test portions.....	8
6.5.2 Determination of main flow moisture point	8
6.5.3 Addition of water for main flow moisture point determination	8
6.6 Graphical method	8
6.6.1 Preparation of test portions.....	8
6.6.2 Determination of flow moisture point	9
6.7 Moisture determination	9
7 Expression of results	9
7.1 Main flow moisture point	9
7.2 Flow moisture point determined by the graphical method	9
8 Validation of main flow moisture point	10
9 Test report	10
Annex A (normative) Description of equipment used to determine TML.....	11
Bibliography	18

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12742 was prepared by Technical Committee ISO/TC 183, *Copper, lead, zinc and nickel ores and concentrates*.

This second edition cancels and replaces the first edition (ISO 12742:2000), which has been technically revised.

Introduction

ISO 12742:2000 was published as a guidance document because there had been insufficient test programme participants to allow precision data to be derived. However, it had been agreed that ISO/TC 183/WG 11 be kept in existence, as there was likelihood that a precision test programme could be held at a later time.

Revision of ISO 12742 was commenced in 2005, on the basis that changes to the procedure were necessary, and there were then sufficient participants to allow a test programme to be conducted.

In the final analysis, insufficient participants were identified. However, the International Standard has been revised for a further edition as a guidance document.

This document is a preview generated by EVS

Copper, lead, and zinc sulfide concentrates — Determination of transportable moisture limits — Flow-table method

WARNING — This International Standard may involve hazardous materials, operations and equipment. It is the responsibility of the user of this International Standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a flow-table method for the determination of the transportable moisture limit (TML) of copper, lead and zinc sulfide concentrates, which may liquefy during transport.

This International Standard is applicable to the determination of the TML of concentrates containing 10 % to 80 % (mass fraction) of lead, or 10 % to 65 % (mass fraction) of zinc, or 10 % to 55 % (mass fraction) of copper. It is applicable to TMLs in the range 3 % to 28 % (mass fraction).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10251, *Copper, lead, zinc and nickel concentrates — Determination of mass loss of bulk material on drying*

ISO 12743, *Copper, lead, zinc and nickel concentrates — Sampling procedures for determination of metal and moisture content*

3 Principle

The moisture content of the sample is adjusted by mixing with water. The mixture is converted to a conical shape using a mould and tamper. The sample is placed on the flow table and the mould is removed. The flow characteristics are determined by repeated dropping of the flow table, while observing the behaviour of the sample. When sufficient water has been added to the sample so that plastic deformation occurs during the dropping of the flow table, the sample is considered to be at its flow moisture point.

The TML is calculated as 90 % of the flow moisture point.

4 Apparatus

Copper, lead and zinc concentrates may gain or lose moisture rapidly when exposed to air. The laboratory should be designed so that excessive temperatures, direct sunlight, air currents and humidity variations are avoided.

4.1 Flow table and frame, as specified in Annex A.

The flow-table mounting shall be as specified in Figure A.1.