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Corrugated fibreboard — Determination of edgewise crush resistance — Waxed edge method

Carton ondulé — Détermination de la résistance à la compression sur chant — Méthode du bord paraffiné

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 6/SC 2, *Test methods and quality specifications for paper and board*.

This second edition cancels and replaces the first edition (ISO 13821:2002), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

— Introduction of an additional group in the Introduction clause;

— Information on sampling of corrugated shipping containers are added in Clause 6;

— Information in 8.2 on the height of the test pieces;

— Introduction of precision data based on TAPPI comparative testing service.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

A variety of methods for the determination of edgewise crush resistance are in use in different parts of the world. These can be classified into four groups as follows:

a) Those in which a carefully cut rectangular test piece is tested without any special treatment or modification.

b) Those in which the edges of the test piece to which the force is applied are waxed to prevent the test result from being influenced by “edge effects”.

c) Those in which the test piece edges are not waxed but the shape of the test piece is such that the length is substantially reduced at a point midway between the loading edges in order to induce the failure to occur away from those edges.

d) Those in which carefully cut rectangular pieces are tested with edges clamped to prevent the test result from being influenced by "edge effects".

The dimensions of the test piece vary from one group to the other and, in group c), the methods vary according to the shape and method of reducing the length.

The methods may not give the same numerical results, but it can be shown that most of them can be used to predict the top-to-bottom compression strength which will be achieved when the board is properly converted into a transport package.

This document describes a method from group b) intended to be used for quality measurement and quality specification purposes. This particular method is selected because it correlates well with the top-to-bottom compression strength of the final transport package and provides significantly higher results than unwaxed methods (a) because edge effects are avoided.