སྒོབ་རྫུང་འཕྱལ་ཆས། གཞི་རྟེན་དགོས་ཚད། གོ་རིམ ,ཡ།

BHUTAN STANDARD

Cereal Flaking Machine: Basic Requirements (Part 1)

ICS 65.060.10

BHUTAN STANDARDS BUREAU
The National Standards Body of Bhutan
THIMPHU 11001

སྒྲིབ་རྡུང་འཕྲལ་ཚས། གཞི་རྟེན་དགོས་ཚད། གོ་རིམ ་ ཡ།

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Director General
Bhutan Standards Bureau
Thimphu-11001
Tel : 00975-2-325104/325401
Fax: 00975-2-323712/328298
Web: www.bsb.gov.bt
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FOREWORD

This Bhutan Standards for Power Tillers–Test Code (Part 2) was adopted by Bhutan Standards Bureau after the draft finalization by the Mechanical Engineering Technical Committee and endorsed by BSB Board.

སྒོབ་རྟུང་འཕྱལ་ཚས། གཞི་རྟེན་དགོས་ཚད། གོ་རིམ ་ ཡ།

BHUTAN STANDARD

Cereal Flaking Machine: Basic Requirements (Part 1)

1 Scope

This standard specifies the basic requirements for the cereal flaking machines.

2 Normative Reference

There are no normative references for this document.

3 Definition

3.1 Cereal Flaking machine

A machine used for flattening the cereals mainly rice and maize.

3.2 Cereal

Are generally of the gramineous family refers to crop harvested for dry grain only.

3.3 Flaking

It is a processing technique by which whole grains of cereals are normally processed before being used as an ingredient to produce a range of products such as rice flakes and cornflakes.

3.4 Food grade material

Any material when it comes in contact with food does not contaminate the food beyond the limit of prohibited substances given in annex A, Table 1.

3.5 Flaking recovery rate

The percentage output of flakes in relation to the total input of roasted cereal in a tested machine.

3.6 Flaking recovery index

It is the ratio of recovery rate of tested machine to that of manual pounding.

3.7 Flaking Capacity

It is the weight of the input cereal processed by the test machine over a time period.

4 General Requirement of the cereal flaking machine shall cover;

4.1. Safety Requirements

4.2. Requirement of Operational Performance

4.4. Structure Requirements

4.1. Safety requirements

4.1.1. There shall be safety guard for moving parts which are prone to injury and guard shall be placed in between the moving parts and operator.

4.1.2. The guard shall have enough strength and durability under the normal operational condition and the guard which does not require to be removed or should be firmly fixed on the machine.

4.1.3. All safety symbols and labels shall be illustrated and clearly visiable to operator.

4.1.4. Parts that come in contact with the flake should be of food grade materials.

4.1.5. The machine should be fitted with the mechanism to remove the finished products.

4.1.6. There should not be any defects that may affect the operator.

4.1.7. The machine shall be equipped with instruction and operation mannuals.

4.2. Requirements of operational performance

4.2.1. Flaking recovery index should be equal to 1.0 or above.

4.2.2 Flaking capacity should be as specified by the manufacturer.

4.2.2. Flaking operation should be smoothly conducted.

4.2.4. The noise level for flaking machine should not exceed 100dB (A) for 2 hours of continuous operation.

4.3. Structure requirements

4.3.1. The main components shall not be abnormal or broken.

4.3.2.The operator should not have difficulty in operating and controlling the components.

4.3.3The food grade materials for processing machine shall be as given in annex A, Table 2

5 Test Sample

The test sample shall be a new machine and it shall be adjusted as per the manufacturer's specification.

Annex A (Normative)

(Clause 3.4 and 4.3.3)

Presence of any traces of prohibited substance should be within the limit prescribed in Table 1.

Table 1 Prohibited substances in food contact parts.

Sl. No	Elements	Limit Value
1.	Lead (Pb)	< 0.1%
2.	**Antimony (Sb)**	< 5 %
3.	Cadmium (Cd)	< 0.01 – 0.04 %
4.	Mercury (Hg)	< 0.1 %
5.	Cyanide	0

Table 2 Recommended food grade materials for different operating conditions

Sl. No	Metal Type	Operating Condition				Food Contact Parts
		Wet			Dry	
		Acid (pH 0-6)	Neutral (pH 6-8)	Alkaline (pH 8-14)		
1.	Carbon Steel	Not Recommended	Recommended with Coating/Plating	Recommended with Coating/Plating	Recommended	Hopper, Shaft, Outer body
2.	Stainless Steel (SS)	SS 304, Recommended	SS304 Recommended	SS304 Recommended	SS200, Recommended	Shaft, Screen, Outlet
3.	Cast Iron	Not Recommended	Not Recommended	Not Recommended	Recommended with coating/Plating	Outer Body

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