

BHUTAN STANDARD**Walk Behind Power Reaper: Basic Requirements (Part 1)****1 Scope**

This standard specifies the general requirement for Walk Behind Power Reaper. It excludes the test methods of Walk Behind Power Reaper.

2 Normative References

There are no normative references for this document.

3 Definitions

For the purposes of this standard, the following definitions shall apply.

3.1 Walk Behind Power Reaper

It is a self-propelled machine used to harvest mainly paddy and other crops as specified by the manufacturer.

3.2 Structure

The structure consists of fixed objects or parts that perform the mechanized harvesting.

3.4 Reference test value

It is a value for total crop loss determined through manual harvesting from a standard area of 1m x 1m. It includes discharge and header losses. Reference test value is used as the baseline to estimate the total loss that results from machine harvesting.

3.5 Total grain loss

It is the combination of discharge and header losses that occur during the harvesting.

3.6 Normal operational condition

An operation which is conducted based on the recommended harvesting speed by the manufacturer. The operator should be at ease during the harvesting operation.

3.7. Normal field condition

An operation which can be conducted in the recommended field for test. The test shall be smoothly conducted at normal field condition

4 The general standard for power reaper shall cover;**4.1 Safety Requirements****4.2 Structure Requirements**

4.3 Requirement Operational performance

4.4 Requirements at the Operators level

4.5 Test Sample

4.1. Safety Requirement

4.1.1. Protection from moveable and hot components

4.1.1.1 There shall be safety guard for all moving parts. The guard shall be placed in between the moving parts and operator at appropriate safe distance.

4.1.1.2 The guard shall have enough strength and durability under normal operational condition.

4.1.1.3 The guard which does not require to be removed should be firmly fixed on the machine.

4.1.1.4 The hot parts of power reaper should be placed at a safe distance from the fuel system

4.2 Safety signs

All safety symbols and labels shall be illustrated and clearly visible to the operator.

4.3 Structure Requirements

4.3.1 The parts of power reaper shall not be abnormal or broken

4.3.2 There should not be oil leakage.

4.3.3 The operator should not have difficulty in exchanging and adjusting parts.

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

4.4 Requirement of operational performance

4.4.1 The machine shall function smoothly under normal field condition.

4.4.2 The total grain loss shall not exceed 3 % from the reference test value.

4.5 Requirements at the Operators level

4.5.1 Noise level

The noise level for power reaper should not exceed 100dBA for 2 hours of continuous operation.

4.5.2 Vibration level

The vibration level of power reaper shall not exceed 15 m/s^2 at normal field operation.

4.6 Test Sample

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

DRAFT BHUTAN STANDARD FOR COMMENTS ONLY!

Bibliography

1. Regional Network for Agricultural Machinery (RNAM): 1995 Test Codes and Procedures for Farm Machinery, Technical Series No. 12
2. PAES 102:2000 Agricultural Machinery - Operator's Manual - Content and Presentation
3. PAES 103:2000 Agricultural Machinery - Method of Sampling, PAES
4. 212:2004 Agricultural Machinery – Power reaper – Specifications

DRAFT BHUTAN STANDARD FOR COMMENTS ONLY!

Mechanical Engineering Technical Committee (TC-08)

Organization

Agriculture Machinery Centre,
Ministry of Agriculture and Forest

Agriculture Machinery Centre,
Ministry of Agriculture and Forest

Agriculture Machinery Centre,
Ministry of Agriculture and Forest

Construction Development Corporation Limited

Farm Machinery Corporation Limited, Ministry of Finance

Department of Agriculture,
Ministry of Agriculture and Forest

Road Safety and Transport Authority,
Ministry of Information and Communication

Technical Training Institute, Samthang,
Ministry of Labour and Human Resources

Bhutan Standards Bureau

Representatives

Chairman

Mr. Chetem Wangchen

Members

Mr. Kinga Norbu

Mr. SangayLhendup

Mr. Karma Loday

Mr. Karma Thinley

Mr. Tirtha Bdr. Katwal

Mr. Phuntsho Wangdi

Mr. Sangay Wangchuk

Mr. Sonam Phuntsho, Director General
(Ex- Officio member)

Member Secretary

Pema Dorji
Standardization Division
Bhutan Standards Bureau

DRAFT BHUTAN STANDARD FOR COMMENTS ONLY!