

MAURITIAN  
STANDARD

MS ISO  
21924-1:2017

First edition  
2020-01-24

---

---

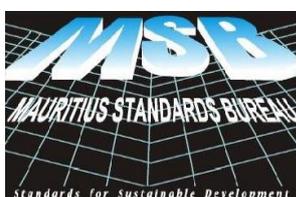
# Protective equipment for martial arts —

## Part 1: General requirements and test methods

ICS 97.220.01; 13.340.01

---

---



Mauritius Standards Bureau  
Moka

## National Foreword

This Mauritian Standard is identical with the International Standard **ISO 21924-1:2017**, *Protective equipment for martial arts — Part 1: General requirements and test methods* published by the International Organization for Standardization (ISO). It was adopted by the Mauritius Standards Bureau on the recommendation of the **Textiles, Paper & Footwear Standards Committee** and approval of the **Standards Council** on **05 December 2019**. It was notified in the **Government Gazette** on **24 January 2020\***.

For the purpose of this Standard the following changes should be made:

the 'decimal comma' should be replaced by 'decimal point'.

### General notice no 103 of 2020



#### COPYRIGHT PROTECTED DOCUMENT

© MSB 2020

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without permission in writing from Mauritius Standards Bureau at the address below.

*Mauritius Standards Bureau  
Villa Road  
Moka  
Mauritius*

*Telephone*           + (230) 433 3648  
*Fax*                    + (230) 433 5051/ 433 5150  
*E-mail*                [msb@intnet.mu](mailto:msb@intnet.mu)  
*Website*             <http://msb.intnet.mu>

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Requirements</b> .....	<b>2</b>
4.1 General.....	2
4.2 Innocuousness.....	2
4.3 Restraint.....	2
4.4 Sizing.....	2
4.5 Zone of protection.....	2
4.6 Impact performance.....	3
<b>5 Testing</b> .....	<b>3</b>
5.1 Sampling.....	3
5.2 Conditioning.....	3
5.3 Colour fastness to perspiration.....	3
5.3.1 Textile materials.....	3
5.3.2 Non-textile materials.....	4
5.4 Restraint.....	4
5.5 Zone of protection.....	5
5.6 Impact performance.....	5
<b>6 Marking</b> .....	<b>5</b>
<b>7 Information supplied by the manufacturer</b> .....	<b>6</b>

## 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.

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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, Subcommittee SC 6, *Martial arts*.

A list of all parts in the ISO 21924 series can be found on the ISO website.

## Introduction

Protective equipment for martial arts (hereinafter referred to as protectors) protect the wearer against contusion, abrasion, laceration, fractures and physical injuries.

Protectors covered by this document will not necessarily prevent any serious injury caused by the execution of martial arts.

PREVIEW

PREVIEW

# Protective equipment for martial arts —

## Part 1: General requirements and test methods

### 1 Scope

This document specifies the general requirements and test methods for innocuousness, ergonomics, restraint, zone of protection, impact performance, as well as provisions for marking and the information supplied by the manufacturer for protective equipment used in martial arts.

The protectors covered by this document are mainly designed for use in unarmed martial arts such as taekwondo, karate, kick-boxing and similar disciplines.

Additional requirements and test methods for components of protectors for specific kinds of martial arts are specified in further parts of this document.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### **protective equipment for martial arts**

equipment worn on the body which mainly provides protection against the effect of external forces and energies in martial arts

#### 3.2

##### **zone of protection**

zone of protectors primarily intended to ensure the protection of the wearer of martial arts equipment

## 4 Requirements

### 4.1 General

Protectors shall be so designed and manufactured that in the foreseeable conditions of use for which they are intended, the user can perform the sporting activity normally while enjoying protection at the specified limit.

It shall be possible to clean the protectors in accordance with the manufacturer's instructions without the loss of the ability to fulfil the requirements of this document.

### 4.2 Innocuousness

Protectors shall be designed and manufactured to provide protection when used in accordance with the information supplied by the manufacturer, without any harm to the user or others when so used. Materials, incorporated substances, seams and edges and particularly those parts of the protectors in close contact with the user shall not impair the user's health and hygiene.

The colour of protectors or parts of them shall be resistant to perspiration.

For textile materials, when tested in accordance with [5.3.1](#), this requirement is considered as fulfilled if, using an alkaline and acid solution according to ISO 105-E04,

- a fastness grade 3 to 4 according to ISO 105-A02 by the change in colour, and
- a fastness grade 3 to 4 according to ISO 105-A03 by staining

will be reached.

For other materials, these requirements are considered as fulfilled if no staining of the used strips of filter paper is observed when they are tested in accordance with [5.3.2](#).

### 4.3 Restraint

The design of the protectors shall enable secure fixation to the body of the user, so that they will remain in place during the normal use for which they are intended. If secure fixation is not provided by restraint systems which are integrated elements or permanently attached to the protector, instructions shall be provided by the manufacturer describing a method of secure fixation.

If rigid, sharp edges and abrasive elements are part of the restraint system, they shall be completely covered by a soft padding.

The displacement of the protector from its original position shall be after each individual test less than 15 % of the linear dimension of the zone of protection (see [4.5](#) and [Clause 7](#)) measured in the line with the force supplied as specified in [5.4](#).

When tested according to [5.4](#), no parts of the restraint system shall break, split, be released or fail in any other way.

### 4.4 Sizing

Protectors shall be supplied in a number of different sizes to meet the requirements according to different body dimensions of wearers. The size shall be marked on the protector.

The specific sizing is defined in the relevant parts of this document.

### 4.5 Zone of protection

The dimensions of the zone of protection shall be as defined in the relevant parts of this document.