



**National Standards Authority of Ireland**

**IRISH STANDARD**

**I.S. EN 12278:2007**

ICS 97.220.40

**MONTAINEERING EQUIPMENT - PULLEYS -  
SAFETY REQUIREMENTS AND TEST  
METHODS**

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EUROPEAN STANDARD

**EN 12278**

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English Version

## Mountaineering equipment - Pulleys - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Poulies - Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Seilrollen - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 26 April 2007.

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## **Foreword**

This document (EN 12278:2007) has been prepared by the Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2007, and conflicting national standards shall be withdrawn at the latest by November 2007.

This document supersedes EN 12278:1998.

It is one of a series of standards for mountaineering equipment, see Annex A.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to support Essential Requirements of EU Directive 89/686/EEC.

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## EN 12278:2007 (E)

### 1 Scope

This European Standard specifies safety requirements and test methods for pulleys for use in mountaineering including climbing.

### 2 Normative references

Not applicable.

### 3 Terms and definitions

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

#### 3.1

##### **pulley**

one or more sheaves mounted in a block or a body, which can be used to link a rope (in accordance with EN 892 and EN 1891) or an accessory cord (in accordance with EN 564) to a connector (in accordance with EN 12275) to safeguard a mountaineer, and which reduces the friction while the rope or accessory cord is moving under load

NOTE Typical examples of use are load reduction systems, tyrolian travers, zip wires and top rope belay.

#### 3.2

##### **sheave**

grooved wheel to locate the rope

### 4 Safety requirements

#### 4.1 Design

**4.1.1** Pulleys shall have a means for attachment of a connector which is large enough to accommodate a pin of diameter 12 mm. Testing shall be in accordance with 5.2.1.

**4.1.2** The pulley, particularly its sheaves, shall be large enough to accommodate a rope or an accessory cord of such diameter as marked on the pulley. Testing shall be in accordance with 5.2.2.

**4.1.3** All edges of the pulley, which come into contact with fingers, shall be free from burrs and the like which could cause irritation or injuries. Testing shall be in accordance with 5.2.3.

**4.1.4** If any sheave axle is secured by nuts or screws, the nuts and/or screws shall be locked and secured by means other than friction.

#### 4.2 Strength

**4.2.1** When tested in accordance with 5.3.2, the sheave(s) shall be capable to rotate ten times in either direction under a force of 2 kN, applied to each sheave individually.

**4.2.2** When tested in accordance with 5.3.2, the pulley shall not show signs of damage or deformation, which could affect its function.

**4.2.3** When tested in accordance with 5.3.2, the pulley shall be capable of withstanding a static force of at least 15 kN, applied to each sheave individually, without completely releasing either the rope or the steel U-bar.

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