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AMENDMENT 1
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Safety of toys —

Part 1: Safety aspects related to mechanical and physical properties

AMENDMENT 1: Flying toys

Sécurité des jouets —

Partie 1: Aspects de sécurité relatifs aux propriétés mécaniques et physiques

AMENDEMENT 1: Jouets volants

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This document was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

A list of all parts in the ISO 8124 series can be found on the ISO website.

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Safety of toys —

Part 1:
Safety aspects related to mechanical and physical properties

AMENDMENT 1: Flying toys

Replace the existing terminological entries 3.24 and 3.38 with the following:

3.24
free flight
unconstrained travel through the air

Note 1 to entry: This includes portions of unconstrained travel that may ultimately be constrained by means of a tether.

3.38
leading edge
area of the projectile or flying toy (e.g. tips, edges or protrusions) which would be expected to make contact with the eyeball

Note 1 to entry: This includes all areas on projectiles or flying toys that travel in unpredictable orientations (e.g. tumbling) that could reasonably be expected to strike the eyeball.

Add the following new terminological entries:

3.86
flying toy
toy or part of a toy intended to be launched into free flight with an on-board energy source (e.g. compressed gas, springs, electricity or inertial energy) that continues to propel the object after the initial release, for part or all of the flight

3.87
remote-controlled flying toy
flying toy with a mass of no more than 250 g, capable of being remotely controlled (e.g. by a wireless transmitter)

Note 1 to entry: Wireless transmitters are typically hand-held devices and include smart devices such as telephones and tablets.

EXAMPLE Drones and helicopters.

Replace the existing 4.19 with the following:

4.19 Flying toys

See E.33.

4.19.1 General

Leading edges on rigid parts of flying toys shall not protrude beyond the depth of the gauge shown in Figure 54 when tested according to 5.36 (tip assessment of rigid projectiles).

Remote-controlled flying toys shall be accompanied by instructions that give the user information on how to use the toy safely (see B.2.26.2).

4.19.2 Rotor blades on flying toys

These requirements do not apply to flying toys with propellers that normally rotate in the vertical plane, for example a propeller on an aeroplane.

Rotor blades on flying toys that present the potential for injury shall minimize the potential of rotating blades causing eye injury. One or more of the following features may accomplish this, for example:

a) The design of the toy prevents the blade ends making contact with the eyes (e.g. a protective ring around the perimeter of the rotor blade, a cage enclosing the rotor blade or rotor blades are fully enclosed and not accessible).

b) The blades are made of flexible material that easily bends when a force is applied at the outer end of the blade perpendicular to the horizontal plane of the blade, and that does not break or permanently deform when tested according to 5.24.6.6 (perpendicular tension test for rotor blades). The blade shall bend without breaking and return approximately to its initial position after the test.

c) The blade ends are “clutched” or loosely coupled to the rotor so that the ends are not directly powered by the rotor drive.

d) A partial ring around the perimeter of the rotor blade.

e) Rotor blades are designed so that the leading edges are protected with a resilient material or flexible part.

Examples of designs that achieve these conditions are given in E.33, Figure E.2.

Flying toys with rotor blades that might reasonably be able to contact the face shall be accompanied by a warning about the potential hazard of rotor blades impacting the eyes or face (see B.2.26.1). This warning is not required where the design of the toy prevents the rotor blade ends making contact with the eyes [see 4.19.2, a)].

Rotor blades that are designed to be replaceable shall be accompanied by instructions that clearly indicate the steps necessary to remove and securely replace the rotor blades.

4.19.3 Rotor blades on remote-controlled flying toys

These requirements do not apply to propellers that normally rotate in the vertical plane, for example a propeller on an aeroplane.

In addition to the requirements in 4.19.2, rotor blades on remote-controlled flying toys shall conform to the following requirements:

a) Rotor blade edges that could come into contact with the eyeball shall be visibly rounded.

b) Rotor blades shall not detach when tested according to 5.24.6.7 (tension test for rotor blades).

Rotor blades that are designed to be replaceable shall be accompanied by instructions that clearly indicate the steps necessary to remove and securely replace the rotor blades.

Add the following new subclauses:

5.24.6.6 Perpendicular tension test for rotor blades