



Designation: F473 – 09 (Reapproved 2017)

# Standard Specification for Binding Mounting Area Dimensions on Alpine Skis and Bindings<sup>1</sup>

This standard is issued under the fixed designation F473; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers<sup>2</sup> dimensions for binding mounting areas for alpine skis and mounting-related dimensions on alpine ski bindings as part of an interface (“ski-binding-boot”) system, in order to optimize the compatibility of the functional elements of the system. It contains data needed for the manufacture of alpine skis, and for manufacturers of alpine ski bindings, specifically with respect to the binding mounting area. This specification is applicable to alpine skis of the following chord lengths (see Terminology F472 for the definition of chord length,  $L_N$ ):

- Group 1:  $L_N \geq 1700$  mm
- Group 2:  $1400 \text{ mm} \leq L_N < 1700$  mm
- Group 3:  $1000 \text{ mm} \leq L_N < 1400$  mm
- Group 4:  $750 \text{ mm} \leq L_N < 1000$  mm

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>3</sup>

F472 Terminology for Geometry of Alpine Skis

F944 Specification for Properties of Adult Alpine Ski Boots (Withdrawn 2004)<sup>4</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F27 on Snow and Water Sports and is the direct responsibility of Subcommittee F27.30 on Skiing and Snowboarding Equipment.

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<sup>2</sup> This specification is meant to conform in all significant aspects to the specification for binding mounting area for alpine skis as set forth in ISO 8364.

<sup>3</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

<sup>4</sup> The last approved version of this historical standard is referenced on www.astm.org.

### 2.2 ISO Standard:<sup>5</sup>

8364 Alpine Skis and Bindings—Binding Mounting Area—Requirements and Test Methods

## 3. Terminology

### 3.1 Definitions:

3.1.1 *binding mounting*—all the connections between the parts of the binding and the ski, especially those designed to transmit forces between binding and ski and that fulfill the minimum strength requirements determined for the function of the binding.

3.1.2 *binding mounting area*—that portion of the top surface of the ski that is intended for mounting bindings. The standardized binding mounting area establishes the area on the ski within which the entire diameter of binding screws should be placed.

## 4. Significance and Use

4.1 This specification defines the area wherein parts of the binding may be mounted. Standard dimensions and location for a binding mounting area enable a ski designer to locate reinforcing elements within this area. Standard dimensions also enable the binding designer to determine all interface dimensions for binding unit size, screw locations, etc. Bindings and skis built in compliance with this specification are compatible. This specification does not apply to any bindings or skis manufactured prior to Jan. 1, 1979.

## 5. Specifications of Binding Mounting Area

5.1 *Tolerances*—Unless otherwise indicated, the tolerance on all dimensions specified is  $\pm 1$  mm.

### 5.2 Indication of Mounting Point:

5.2.1 The ski manufacturer shall be required to put a clearly visible mark at least on the left side or top surface, or both, of the ski, up to the left outer edge. This line corresponds with the mark on the side surface of the boot sole, or when noted, to the boot sole toe location (see Specification F944).

<sup>5</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

5.2.2 The location of the mark on the ski shall be determined by the ski manufacturer in accordance with established test procedures and results.

5.3 *Length of Binding Mounting Area* (see Fig. 1)—The length of the binding mounting area forwards and backwards from the midsole mounting point shall be as follows:

Group 1:	275 mm
Group 2:	240 mm
Group 3:	210 mm
Group 4:	190 mm

or about the boot sole toe location shall be as follows:

	<i>Forward</i>	<i>Rearward</i>
Group 1:	110 mm	440 mm
Group 2:	100 mm	380 mm
Group 3:	90 mm	330 mm
Group 4:	80 mm	300 mm

5.4 *Width of Binding Mounting Area* (see Fig. 1)—The minimum width of the binding mounting area, symmetrical about the longitudinal axis of the ski, shall be as follows:

Groups 1 and 2:	50 mm
Groups 3 and 4:	48 mm

5.5 *Center-to-Center Distances for Binding Mounting Screws:*

5.5.1 *Maximum Center-to-Center Distance:*

5.5.1.1 The maximum center-to-center distance perpendicular to the center line of the ski shall be such that the screws are located entirely within the binding mounting area.

5.5.1.2 If ski binding screws of nominal diameter 5.5 mm are used, the maximum center-to-center distance of the binding mounting screws shall be as follows:

Groups 1 and 2:	42.5 mm
Groups 3 and 4:	40.5 mm

5.5.2 *Minimum Center-to-Center Distance:*

5.5.2.1 For screws that are used for mounting of parts of the binding and retention devices, the center-to-center distance shall not be less than as follows:

Groups 1 and 2:	25 mm in the longitudinal direction; 20 mm in all other directions
Groups 3 and 4:	20 mm in the longitudinal direction; 15 mm in all other directions

5.6 *Surface of the Binding Mounting Area:*

5.6.1 *Transverse Profile (Convexity) of the Surface:*

5.6.1.1 Deviations of straightness of the transverse profile from a flat profile are only permissible in the form of a constant curve across the width of the mounting area. The tolerance on straightness within this area is given in Fig. 2.

5.6.1.2 There shall be no step in the profile within a width of the following, symmetrical to the longitudinal axis.

Groups 1 and 2:	55 mm
Groups 3 and 4:	50 mm

Outside the binding mounting area, steps are allowed only into the body of the ski.

5.6.2 *Longitudinal Profile of the Surface*—Deviations from straightness of the longitudinal profile from a flat profile are only permissible in the form of a constant convex curve in the length of the mounting area. The tolerance on straightness in this area, with the ski base pressed against a flat surface, is (see Fig. 1) as follows:

Groups 1 and 2:	5 mm
Groups 3 and 4:	4 mm

5.6.3 *Side Walls*—Side walls shall be designed so that binding mounting with commonly used mounting devices is ensured. The basic requirement is that the clamping elements of the mounting device reach at least to the running surface of the ski.

5.7 *Minimum Thickness of Binding Mounting Area*—Within the total binding mounting area, a drill hole of depth  $d'$  (see Fig. 3) shall be available as follows, so as to accommodate screw penetrations of  $8 \pm 0.5$  mm and  $6 \text{ mm} \pm 0.5$  mm, respectively.

Groups 1 and 2:	9.5 mm
Groups 3 and 4:	7.5 mm

**6. Specifications of the Binding**

6.1 The hole-pattern shall be in accordance with the geometrical requirements of 5.3 – 5.5.

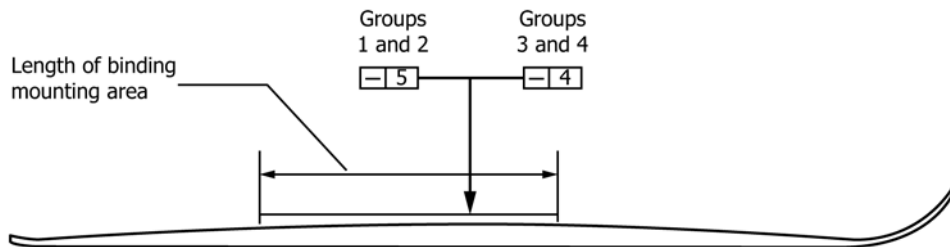
6.2 In order to ensure the required penetration depth, the manufacturer of the binding shall select a suitable length of binding screw so that after binding mounting the shaft of the screw penetrates the ski (see Fig. 3) to a depth of the following:

Groups 1 and 2:	$d = 8 \text{ mm} \pm 0.5 \text{ mm}$
Groups 3 and 4:	$d = 6 \text{ mm} \pm 0.5 \text{ mm}$

6.3 To avoid damaging the top layers (causing damage to the adhesive bond) the diameter of the mounting plate holes or countersink facing the ski shall not exceed 7 mm. The countersink drill shall be designed in such a way that its penetration into the top surface of the ski does not exceed 0.6 mm.

**7. Keywords**

7.1 alpine skis; mounting area; screw depth; ski bindings; ski profile



NOTE 1—Tolerance in millimetres.

**FIG. 1 Longitudinal Profile**