



**FÉDÉRATION INTERNATIONALE  
DE GYMNASTIQUE**



**FIG  
Apparatus Norms**

II
TRA
01.01.2009
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## 2.5 TRA Trampoline Gymnastics

<b>II</b>
<b>TRA 1</b>
<b>01.01.2009</b>
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## Trampoline

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### 1. Frame

1.1. Interior measurements of the frame, with bed under tension, but without frame pads:

Length	505 cm	+/-6 cm
Width	291 cm	+/-5 cm
Height of bed (from floor)	115,5 cm	+/-0,5 cm

1.2. For safety reasons the profile of the frame must have rounded edges. The radius must be min 15mm. The profile of the frame may also be oval or round, but in these cases, it must be guaranteed, that coaches are able to stand on the frame safely in order to give the necessary support to the athletes. Special attention must be given to the padding of the frame.

### 2. Trampoline Bed

2.1. Dimensions of the bed under tension ready for use, incl. attachment straps:

Length	428 cm	+/-6 cm
Width	214 cm	+/-5 cm

2.2. The bed must be constructed from light coloured bands, webs, strings etc., which must be held together in such a way that they are not displaced during use.

2.2.1. Web Construction:

Width of web under tension	0,55 cm +/- 0,15 cm
Distance between any two webs	1,6 cm (max.)

2.2.2. String Construction:

Width of strings under tension	0,3 cm +/- 0,1 cm
Distance between any two strings	no greater than 1 cm

2.3. The bed must be strong enough to withstand wear, and not tear when in use.

2.4. The jumping zone must be marked out clearly in red on the middle of the bed. The lines belong to the jumping zone.

Length	215 cm	+/- 4 cm
Width	108 cm	+/- 4 cm
The centre of the bed must be indicated by a red cross.		
Dimensions	70 cm	+/- 3 cm

### 3. Suspension

The bed must be suspended with springs in such a way as to present no danger to users. The tension on the bed should be such that the bed stabilises within a second after contact.

### 4. Area free of obstruction beneath the bed

The trampoline must be constructed so that the competitor will not touch any part of the frame beneath the bed.

### 5. Safety Padding

5.1. The frame and springs must be entirely covered by a shock absorbing padding, the thickness of which must be between 3,0 cm and 5,0 cm. The padding must not touch any part of the bed. The padding may extend over the bed by up to 3 cm, but the available unobstructed jumping area may not be smaller than the minimum bed size (422 cm x 209 cm).

5.2. The padding should be firmly fixed to the frame without hindering the normal action of the bed and springs. Nor should it cause noise through flapping.

5.3. The bottom of the padding, at the side of the bed, should not protrude above the level of the bed by more than 6 cm. The padding must be stable enough to allow a person to stand on it without protruding into the spaces between the springs.

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## Trampoline

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### 6. Safety Platform

- 6.1. Platforms must be placed at both ends of the trampoline. The platform must be made of a framework which is firmly attached to the trampoline. The platforms must be constructed so that it is shock absorbent and the surface must be covered with a shock absorbing mat, firmly fixed to the platforms.

The mats must have the following dimensions:

Width:	300 cm	+/-2,5 cm
Length (including wedge, 40 cm)	240 cm	+/-2,5 cm
Thickness at the bedside	7,5 cm	+/-0,5 cm
Thickness at the end	20 cm	+/-2,0 cm

The platforms dimensions must be such, that the mats are sufficiently supported to ensure, that on landing, it supports the weight of the competitor without collapsing or folding.

The foam of the mats shall have a density of 25 kg / m<sup>3</sup> (+/-2,5 kg /m<sup>3</sup>). The ultimate tensile strength of the foam shall be ≥ 130 kPa, the compression stress value 40% shall be 4,0 (+/- 0.4) kPa

- 6.2. The mat covering the platform must extend to the edge of the bed (covering the springs).
- 6.3. The base of any Wheel stands must also be covered with padding.

### 7. Spotter mats

- 7.1. Spotter mats must be covered with a material which will slide easily. The foam of the spotter mats shall have a density of 20 kg / m<sup>3</sup> (+/-2 kg /m<sup>3</sup>). The ultimate tensile strength of the foam shall be ≥ 90 kPa, the compression stress value 40% shall be 2,5 (+/- 0.5) kPa

- 7.2. The mats must be provided with at least two handles or one long handle on the two long sides of the mat.

#### 7.3. Dimensions:

Length	200 cm	- 50 cm
Width	150 cm	- 50 cm
Thickness	15 cm	- 5 cm

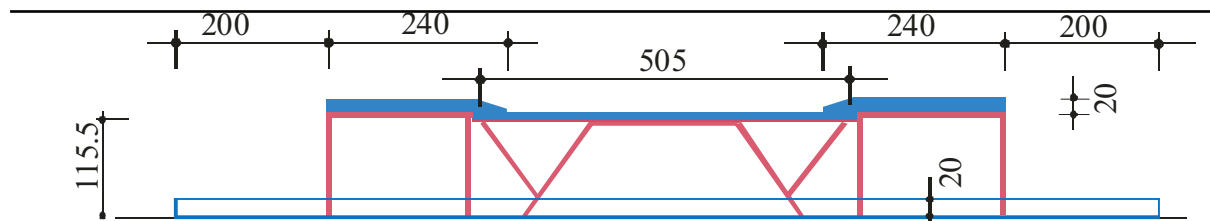
8. Safety mats on the ground: Mats shall rest on the ground around and between the trampolines for safety reasons. One of the following two types shall be used:

a) Mats which satisfy the specifications of MAG11/WAG11/TRA11. (measures: Height: 20 cm, Width: 200cm, Tolerance: +/- 1 cm).

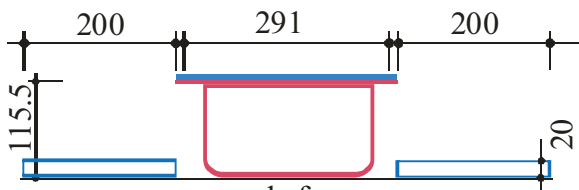
b) Mats with a core which shall have a density of 25 kg / m<sup>3</sup> (+/-2,5 kg /m<sup>3</sup>). The ultimate tensile strength of the foam shall be ≥ 130 kPa, the compression stress value 40% shall be 4,0 (+/- 0.4) kPa. Ultimate tensile strength of the cover material shall be 560-600 kPa. (measures: Height: 20 cm min , Width: 200cm, Tolerance: +/- 1 cm).

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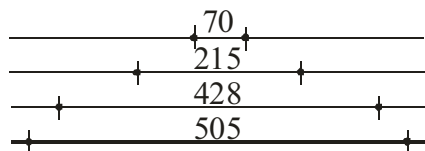
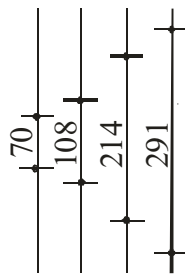
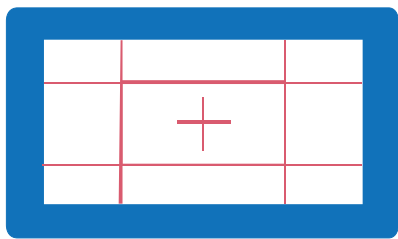
# Trampoline



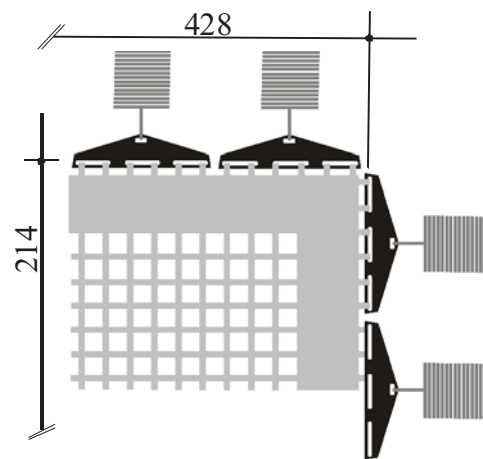
vue de côté  
side view  
Seitenansicht



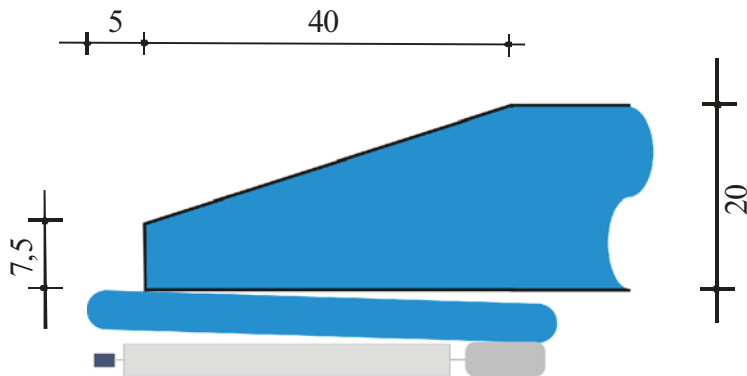
vue de face  
front view  
Frontansicht



vue de dessus  
top view  
Aufansicht



Délimitation de la toile  
boundary for the bed  
Begrenzung Tuch



Detail  
Tapis sur la plateforme de sécurité  
mat covering the platform  
Matte auf Sicherheitsplattform

cotes obligatoires;  
construction selon le gré;  
dessin en exemple

dimensions: mandatory;  
design: at your discretion;  
drawing: typical example

Maße bindend;  
Konstruktion freigestellt;  
Zeichnung als Beispiel

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## Double Mini - Trampoline

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### 1. Frame

- 1.1. For safety reasons no metal bars or other firm fixings are allowed across the ends of the Double Mini-Tramp other than at floor level.
- 1.2. For safety reasons the profile of the frame must have rounded edges. The radius must be minimum 15mm.
- 1.3. Safety Padding
  - 1.3.1. The frame and springs must be entirely covered by shock absorbing padding, the maximum Thickness of which must not be greater than 55mm. The padding must not cover any part of the bed.
  - 1.3.2. The padding should be firmly fixed to the frame without hindering the normal action of the bed and the springs. Nor should it cause noise through flapping.
  - 1.3.3. The bottom of the padding at the side of the bed should not protrude above the level of the bed by more than 6 cm.
  - 1.3.4. The bars beneath the bed must be padded.
  - 1.3.5. The frame ends on the dismount end must be covered with at least 50mm pads firmly joined together with the other padding.

### 2. Bed

- 2.1. The bed must be constructed from light coloured bands, webs, strings etc., which must be held together in such a way that they are not displaced during use.
- 2.2. Dimensions of the bed under tension:-
 

Length	285 cm	+/- 5 cm
Width	92 cm	+/- 1 cm
- 2.3. Height of bed from floor under tension:
 

Mounting End	45 cm	+/- 10 cm
Dismounting End	70 cm	+/- 10 cm
- 2.4. Width of web under tension: 0,4 cm min. 1,3 cm max.  
 Width of strings under tension: 0,3 cm +/- 0,1 cm
- 2.5. The strands of webbing (or string) must be sewn together, and the distance between any two strands must not be greater than 1, 8 cm (max: 1 cm with string-construction).
- 2.6. The bed must be strong enough to withstand wear, and not tear when in use.
- 2.7. The Penalty Zones must be marked in red on the bed.  
 The dimensions of these zones are:
 

End markers	13 cm	+/- 2 cm
Centre zone	39 cm	+/- 1 cm
Distance of the Centre Zone (Measured from the mounting end)	90 cm	+/- 2 cm

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## Double Mini - Trampoline

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### 3. Landing Area

- 3.1. The landing area shall be covered with a landing mat (TRA11) which is shock absorbent and which allows a stable landing on the feet.

Dimensions of the landing area must be:

Length (landing mat, TRA11)	600 cm	+/- 1 cm
Width (landing mat, TRA11)	300 cm	+/- 1 cm
Thickness (landing mat, TRA 11)	30 cm	+/- 1 cm

### 3.2 Landing Zones

Two landing zones must be marked out in the landing area, with either the whole zone in a contrasting colour or, with lines 50mm wide in a contrasting colour. If lines are used, they have to belong to their zones.

#### 3.2.1 Landing Zone C:

The size of landing zone C is identical to the size of the Landing Area (see 3.1 above)

#### 3.2.2 Landing Zone B:

The outer edge of the landing zone (or lines) marks the boundary of the landing zone, the dimensions of which must be:

Length	400 cm +/- 1 cm
Width	200 cm +/- 1 cm

#### 3.2.3 Landing Zone A:

The outer edge of the landing zone (or lines) marks the boundary of the landing zone, the dimensions of which must be:

Length	200 cm +/- 1 cm
Width	100 cm +/- 1 cm

For certain events the FIG may stipulate the colours of the different zones.

### 4. Run-up

Floor mats shall be used on the run-up:

Length	2000 cm	+ 250 cm
Minimum Width	100 cm	
Thickness	2,5 cm	+/-0,5 cm

### 5. Spotter mats

- 5.1. Spotter mats must be covered with a material which will slide easily. The foam of the spotter mats shall have a density of 20 kg / m<sup>3</sup> (+/-2 kg /m<sup>3</sup>). The ultimate tensile strength of the foam shall be ≥ 90 kPa, the compression stress value 40% shall be 2,5 (+/- 0.5) kPa

- 5.2. The mats must be provided with at least two handles or one long handle on the two long sides of the mat.

#### 5.3. Dimensions:-

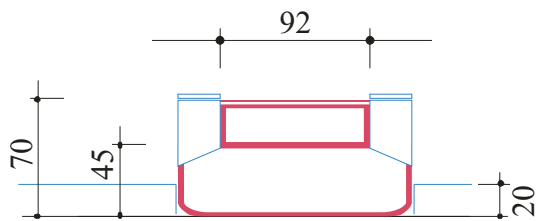
Length	200 cm	- 50 cm
Width	150 cm	- 50 cm
Thickness	15 cm	- 5 cm

6. Safety mats on the ground: On the two sides of the DMT a mat shall rest on the ground for safety reasons (measures: Height: 20 cm, Width: 200cm, Tolerance: +/- 1 cm). They have to satisfy the specifications of MAG11/WAG11/TRA11.

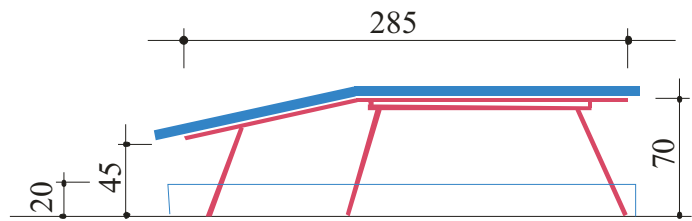
7. No testing procedures for Double Mini-Trampolines are available at the moment. Procedures for Certification see Part III, 4.1. and 4.2.

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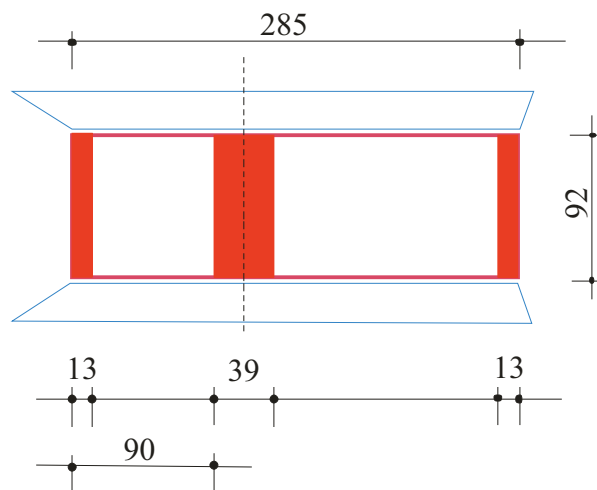
# Double Mini - Trampoline



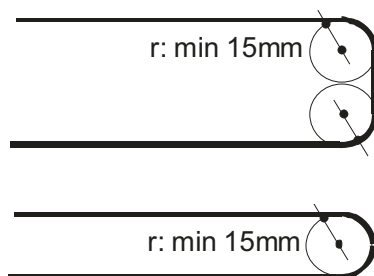
vue de face  
front view  
Frontansicht



vue de côté  
side view  
Seitenansicht



vue de dessus  
top view  
Aufansicht



Variantes - détail profil du cadre  
variants - detail profile of the frame  
Varianten - Detail Rahmenprofil

cotes obligatoires;  
construction selon le gré;  
dessin en exemple

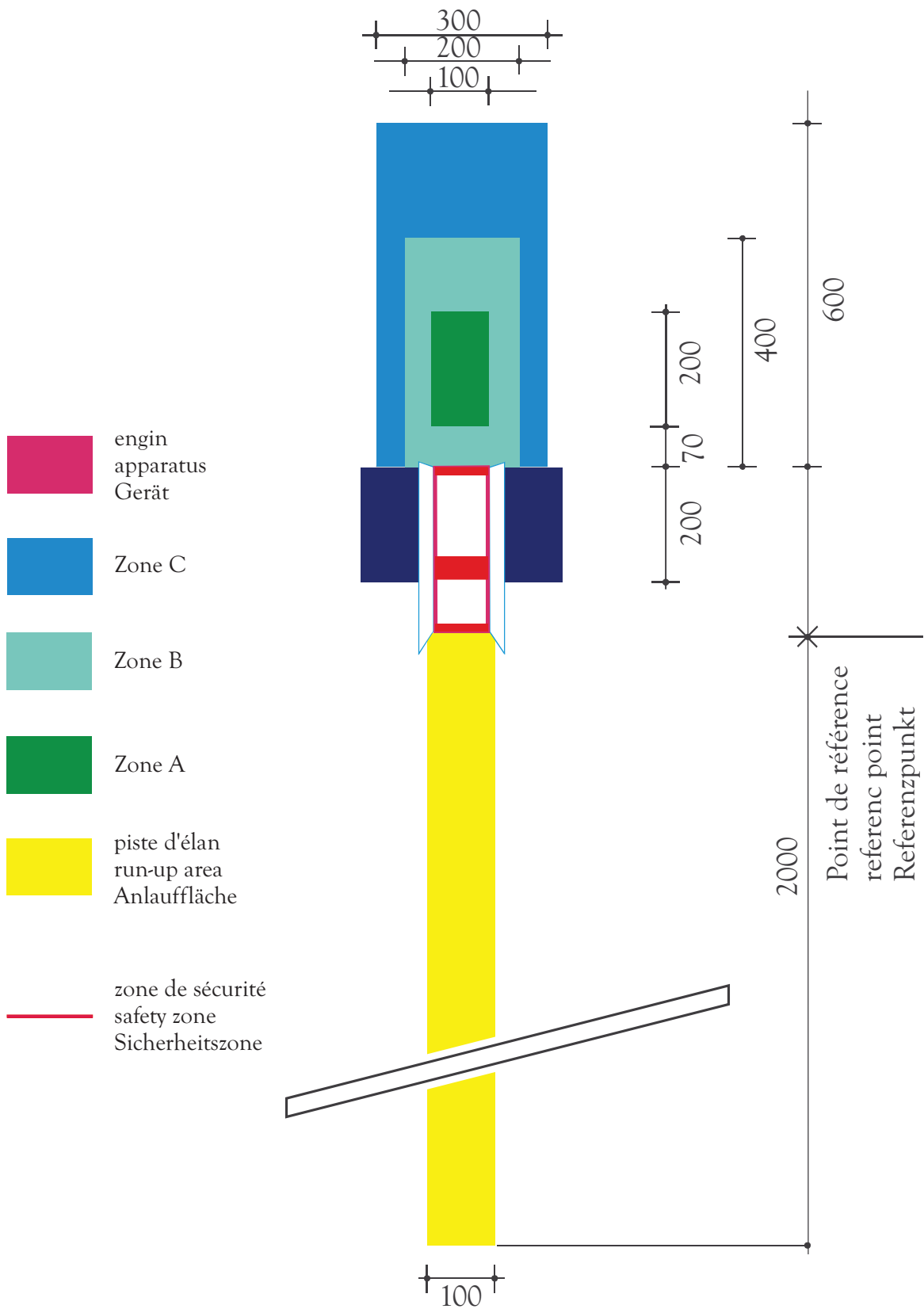
dimensions: mandatory;  
design: at your discretion;  
drawing typical example

Maße bindend;  
Konstruktion freigestellt;  
Zeichnung als Beispiel



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# Double Mini - Trampoline



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<b>TRA 3</b>
<b>01.01.2009</b>
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## Tumbling track

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### 1. Tumbling Track

- 1.1. The tumbling track must be constructed with a sprung surface, which must be padded. If constructed of several units these must be firmly fixed together as so not to separate in use and showing no space between them.

Dimension:

Length	2500 cm	+ 100 cm
Height	30 cm max (from 1.1.2012: ± 1 cm)	
Width of construction	200 cm	± 5 cm

### 1.2. Markings

Two lines, 50mm wide in a contrasting colour must mark the outer edge (boundary) of the track.

Distance (incl. lines): 150 cm +/- 1 cm

A centre line, 5 cm wide, in a contrasting colour, must mark the centre line of the tumbling track.

### 2. Landing Area

- 2.1. The landing area shall be covered with a landing mat (TRA11) which is shock absorbent and which allows a stable landing on the feet. The height of the landing mat shall be equal to the height of the tumbling track.

Dimensions of the landing area must be:

Length (landing mat TRA11)	600 cm	+/- 1 cm
Width (landing mat TRA11)	300 cm	+/- 1 cm
Thickness (landing mat TRA11)	30 cm	+/- 1 cm

### 2.2. Landing Zone

A landing Zone must be marked out in the landing area, with either the whole zone in a contrasting colour or, with lines 50mm wide in a contrasting colour. The outer edge of the landing zone (or lines) marks the boundary of the landing zone, the dimensions of which must be:

Length	400 cm +/- 1 cm
Width	200 cm +/- 1 cm

A non compulsory supplementary mat in the same dimension as the landing zone can be used (TRA13). In this case the supplementary mat must be attachable to the landing mat (i.e. using Velcro). The colour of the supplementary mat must be in contrast to the landing mat and the tumbling track or with lines according to the description above.

3. There must be a run up area (same level as tumbling track) prior to the tumbling track.

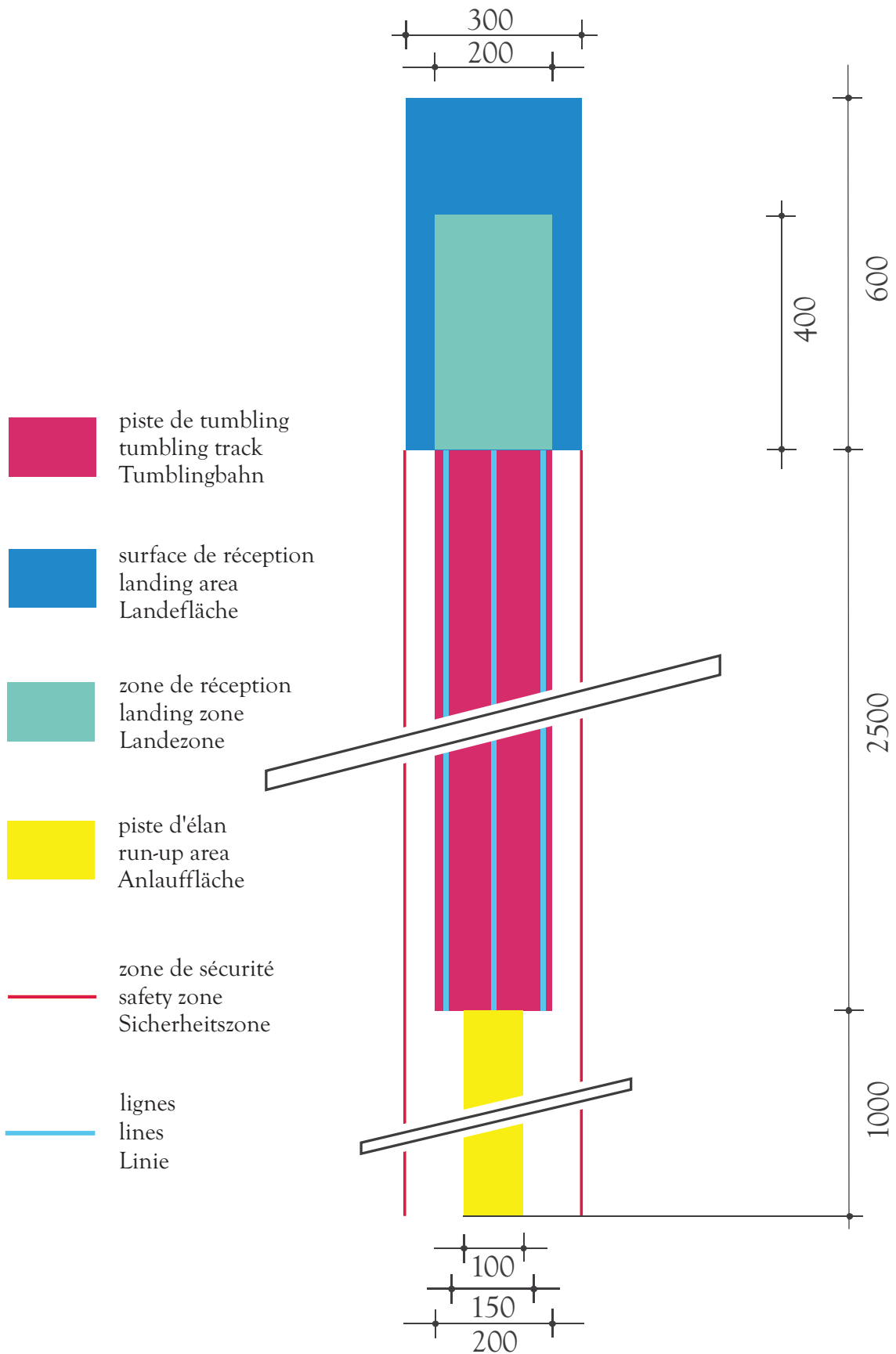
Dimensions:

Length	1000 cm	+100 cm
Minimal width	100 cm	

4. There must be a hard and a soft Vaulting Board available which meets the specifications of TRA 14.

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# Tumbling track



Landing mat  
 Double Mini-Trampoline + Tumbling  
 Safety mat  
 Trampoline, Double Mini-Trampoline

<b>II</b>
<b>TRA 11</b>
<b>01.01.2006</b>
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Use Double Mini-Trampoline; Tumbling; Trampoline

Construction / Description of material, measurements

Form	The surface must be horizontal, even and without gaps. To arrange the whole area several mats can be composed.
Measurements	Height safety mat Trampoline; DMT (TRA1, TRA2): 20 cm +/- 1 cm Height landing mat DMT; Tumbling (TRA2, TRA3): 30 cm +/- 1 cm
Functional Properties	<p>Absorbency:          The mats must absorb motion energy, in order to reduce the reaction transmitted to the body of the landing gymnast, to a tolerable proportion.</p> <p>They must respond to increased penetration with an evenly increasing resistance.</p> <p>Stability and Freedom of Movement :          Absorbency of the mats must be balanced in order to guarantee standing, walking stability and freedom of movement; there must be an equal balance between elasticity and absorbency properties.</p> <p>Indentations caused by the incidence of compressive forces must not encase the body parts, thereby hindering freedom of movements mainly of rolling a part of the body.</p> <p>If a cover is used, such cover may not cause any hindering folds. The mats' upper surface material must offer a balance between anti-slip and slippage. It must be neither slippery nor possess inhibitory resistance.</p> <p>By no means should mats be dislocated during performances. An anti-ski cover on the mats' underside may provide this condition.</p> <p>The border zones of the mats which are pushed together should practically have the same functional properties as the remaining surface. Impacts on the border zones should not cause different indentations than on the remaining surface. For this purpose, and to bridge joints, continuous runners are permitted.</p>
Colour	<p>Preference should be given to uniform colours.</p> <p>The upper surface must not show optically disturbing patterns or insignia.</p> <p>The FIG may designate the colour for certain events.</p>

Norms / Functional properties  
 Regarding tests carried out by FIG Tests Institutes : please see chapter IV

Supplementary mat  
Tumbling

<b>II</b>
<b>TRA 13</b>
<b>01.01.2009</b>
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Use Tumbling;

Construction / Description of material, measurements

Use	A supplementary mat must be available for the landing area in Tumbling. The usage is not compulsory.
Form	Their upper surface must be horizontal, even and without gaps. It shall have the size of the landing zone. The supplementary mat can be laid on the landing mats (TRA11), if used it must be attachable to the landing mat (i.e. using Velcro).
Measurements	<p>Height of the supplementary mat: 10 cm * 1 cm</p> <p>Surface: 400 x 200 cm * 1 cm</p> <p>* Tolerance +/-</p>
Functional Properties	<p>The foam of the supplementary mats shall have a density of 25 kg / m<sup>3</sup> (+/- 2 kg /m<sup>3</sup> ). The ultimate tensile strength of the foam shall be ≥ 115 kPa, the compression stress value 40% shall be 4,0 (+/- 0.5) kPa</p> <p>Their upper surface must be horizontal, even and without gaps. The supplementary mats have to be laid on the landing mats. The supplementary mat shall be attachable (i.e. using Velcro).</p>
Colour	<p>The colour of the supplementary mat must be in contrast to the landing mat and the tumbling track or with lines according to the description of the landing zone (see TRA3).</p> <p>The upper surface must not show optically disturbing patterns or insignia.</p> <p>The FIG may designate the colour for certain events.</p>

# Vaulting Board

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TRA14
01.01.2009
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Use                      Tumbling “hard” and “soft”

## Construction / Description of material, measurements

### Form

The profile of the vaulting board must adhere exactly to the respective blue print.

Its upper surface rises in an arched form, approaching the horizontal between 75 cm and 95 cm, measured from the frontal angle. The height reached at this point, may not be exceeded. After this point, the upper surface may continue horizontally or slope downward.

The rise of the arch is 3.5 cm +/- 0,5 cm.

For competitions a “soft” and a “hard” vaulting board shall be available. The “hard” board shall be marked with a dot on the surface.

### Measurements

- Length	120 cm	* 1 cm
- Width	60 cm	* 1 cm
- Height	20 cm	* 1 cm
- Height (run-up side)	max 3 cm	
- Cushion Cover	2 cm	* 0,5 cm
- Total height with cushion cover	22 cm	* 1,5 cm
- Free space between floor and the lower edge of the vaulting board at the run-up side	max. 1 cm	

\*Tolerance +/-

The stipulated length and height refers to the vertical projection of the upper plate, i.e. the take-off plate.

The base may be larger, but cannot extend more than 2 cm beyond the projection of the board.

Labelling of the “hard” vaulting board on the surface by a dot with clear contrast on the longitudinal midline:

Distance to the side of run up	5 cm
Diameter	8 cm

### Functional Properties

The functional properties of the vaulting board (hardness, damping, elasticity) shall not be adjustable (i.e. springs must be fixed so that they cannot be easily removed by hand).

The elasticity of the vaulting board must be most effective in the area between 75 cm and 95 cm, measured horizontally from the frontal angle.

The vaulting-board must dampen the counter pressure, i.e. reduce motion energy.

Elasticity and absorbency must be evenly distributed, so that the effect of the vaulting board differs only slightly, regardless whether the force of the impact is at the middle axis, or away from it.

The upper surface of the vaulting board must offer slip resistance.

## Vaulting Board

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### Colour

The board must not produce disturbing sounds during its use.

The board must not dislodge during use.

The vaulting board and its base may not have any sharp corners, edges and no protruding parts. Mainly the upper and under edge of the upper part of the Vaulting board towards the apparatus side (Vaulting Table, Balance Beam of Uneven Parallel Bars) shall be cushioned and rounded.

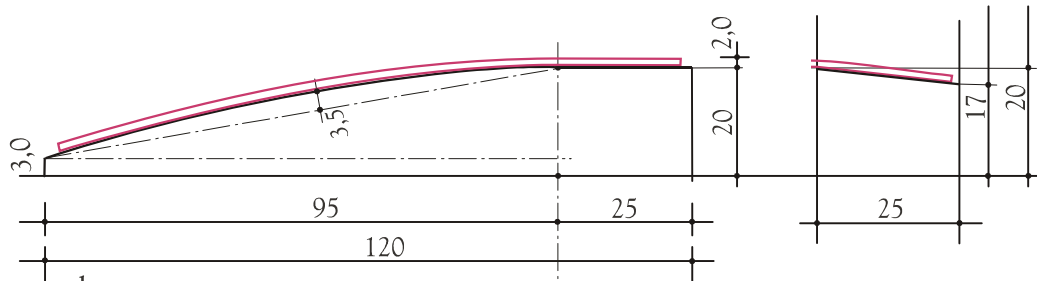
The choice of colour is left to the discretion of the manufacturer.

With exception of the dot for "hard" vaulting boards optically disturbing patterns, stripes or insignia on the upper surface are not permitted.

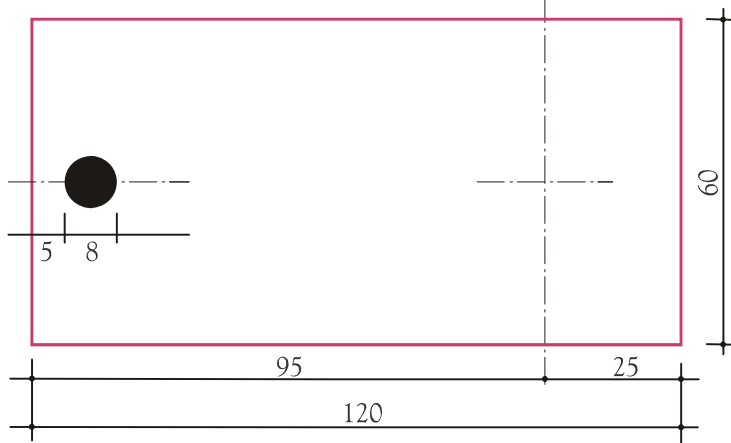
The FIG may designate the colour for certain events.

Norms / Functional properties  
Regarding tests carried out by FIG Tests Institutes : please see chapter IV

variante d'abaissement  
lowering variant  
Absenkungsvariante



plan  
profile  
Schnitt



vue de dessus  
top view  
Aufsicht

Marcage pour tremplin dur  
mark for the hard board  
Markierung für hartes Brett

