DOCUMENTO

NORMATIVA DEPORTIVA DE APLICACIÓN
ESPACIO SOCIO-DEPORTIVO ARDOI NORTE
ZIZUR MAYOR

FECHA
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CLIENTE
AYUNTAMIENTO ZIZUR MAYOR

EMPLAZAMIENTO
ARDOI; ZIZUR MAYOR

ARQUITECTOS
Mariano GONZALEZ PRESENCIO
José Javier ESPARZA UNSAIN
Miguel Ángel DÍAZ ITURRIAGA
Elena CHÁVARRI BURGUETE

COLABORADORES
Cesar SESMA VITRIAN INGENIERIA INSTALACIONES

WARQS
Parque Comercial Galaria, Calle U nº 3 Local 2-4
31191 Cordovilla Navarra
T | **F** 948 85 73 05 | www.warqs.com | oficina@warqs.com

En coordinación con los servicios técnicos municipales del Ayuntamiento de Zizur Mayor, se ha establecido que el edificio objeto de este proyecto cumpla determinada normativa vigente relativa a instalaciones deportivas, en concreto:

- UNE EN 14877:2013: (revisión 2014) Requisitos para ensayos de laboratorio de Superficies sintéticas para instalaciones de atletismo.
- NORMA DIN 18035-6:2014) sobre contenido de metales pesados y Carbono Orgánico Disuelto
- *IAAF TRACK AND FIELD FACILITIES MANUAL 2008:* se ha seleccionado, para facilitar su directa consulta, aquellas páginas de directa aplicación en esta instalación deportiva, sin perjuicio de otras prescripciones del documento íntegro aplicables.

Este documento recopila dicha normativa seleccionada.

UNE-EN 14877:2014 "SUPERFICIES SINTÉTICAS PARA ESPACIOS DEPORTIVOS DE EXTERIOR. REQUISITOS"

Esta norma especifica los requisitos para las superficies deportivas sintéticas (elaboradas "in situ" o prefabricadas) para instalaciones deportivas de exterior para las siguientes aplicaciones:

- Atletismo
- Tenis
- Multideporte (Instalaciones en cuya superficie se juega a más de un deporte, p.e.: balonmano, baloncesto, voleibol, fútbol-sala, educación física y otras actividades deportivas)

La norma consta de dos partes, la 1ª para los requisitos de las superficies deportivas sintéticas para ensayos en laboratorio y la 2ª parte para los requisitos de superficies deportivas sintéticas una vez instaladas.

1ª PARTE. REQUISITOS PARA ENSAYOS DE LABORATORIO:

En los cuadros siguientes se incluyen los requisitos para los ensayos de laboratorio para asegurar los niveles requeridos de rendimiento deportivo y de interacción jugador-superficie, así como que están fabricadas con materiales de calidad aceptable para el uso previsto de superficies sintéticas para pistas de atletismo, de superficies sintéticas para pistas de tenis o de superficies deportivas para instalaciones multideportivas:

<table>
<tr><th colspan="6">UNE-EN 14877:2014 REQUISITOS PARA ENSAYOS DE LABORATORIO DE SUPERFICIES SINTÉTICAS PARA INSTALACIONES DE ATLETISMO</th></tr>
<tr><th>Propiedad</th><th>Método de ensayo</th><th colspan="2">Condiciones de ensayo</th><th colspan="2">Requisito</th></tr>
<tr><td colspan="6">RENDIMIENTO DEPORTIVO</td></tr>
<tr><td>Fricción</td><td>EN 13036-4 (caucho CEN)</td><td rowspan="2">(23 ± 2) °C</td><td>Seco</td><td colspan="2">80 a 110</td></tr>
<tr><td>Húmedo</td><td colspan="2">55 a 110</td></tr>
<tr><td rowspan="5">Absorción de impacto</td><td rowspan="5">EN 14808</td><td>(10 ± 2) °C
(23 ± 2) °C
(40 ± 2) °C</td><td>Seco</td><td>Reducción de fuerza</td><td>Clasificación</td></tr>
<tr><td rowspan="4">Tras envejecimiento acelerado por aire caliente (norma EN 13817) y agua caliente (norma EN 13744), la absorción de impactos se mide entre 24h y 36h siguientes, a temperatura de laboratorio de 23 ± 2 °C.</td><td colspan="2">25% a 34%</td><td>SA 25 – 34</td></tr>
<tr><td colspan="2">35% a 50%</td><td>SA 35 – 50</td></tr>
<tr><td colspan="2" rowspan="2">El rendimiento de la superficie se clasifica en base al resultado más bajo obtenido en todas las condiciones de ensayo.</td></tr>
<tr><td>Deformación vertical</td><td>EN 14809</td><td>(10 ± 2) °C
(23 ± 2)°C
(40 ± 2) °C</td><td>Seco</td></tr>
</table>

UNE-EN 14877:2014 REQUISITOS PARA ENSAYOS DE LABORATORIO DE SUPERFICIES SINTÉTICAS PARA ATLETISMO					
Propiedad	**Método de ensayo**	**Condiciones de ensayo**		**Requisito**	
CARACTERÍSTICAS DE LOS MATERIALES					
Permeabilidad al agua	EN 12616	(23 ± 2) °C	—	≥ 150 mm/h	
Resistencia al desgaste	EN ISO 5470-1 con ruedas abrasivas H18 y carga de (1 ± 0,001) kg a 60 Hz/min	(23 ± 2) °C	Sin envejecer	Pérdida de masa inferior a 4,0 g (entre 500 y 1,500 ciclos).	
		Tras envejecimiento artificial conforme a la norma EN 14836.			
Decoloración	EN ISO 20105-A02	Tras envejecimiento artificial conforme a la norma EN 14836.		La solidez del color no debe ser inferior a 3 en la escala de grises.	
Propiedades de tracción	EN 12230	Sin envejecer		Resistencia a tracción	≥ 0,4 MPa
		Tras envejecimiento acelerado por aire caliente (norma EN 13817) y agua caliente (norma EN 13744), la resistencia a tracción se mide entre 24h y 36h siguientes, a temperatura de laboratorio de 23 ± 2 °C.		Alargamiento de rotura	≥ 40%
Resistencia a clavos	EN 14810	Tras la abrasión por clavos		La alteración de la resistencia a tracción y el alargamiento de rotura en comparación con una muestra no envejecida no deben diferir más del 20% ni ser inferior a los valores de propiedades de tracción.	
		Tras envejecimiento acelerado por aire caliente (norma EN 13817) y agua caliente (norma EN 13744)			
Espesor absoluto	EN 1969 (Método A)	(23 ± 2) °C		≥ 10 mm	

La norma UNE-EN 14877:2014 no está pensada para cubrir los requisitos de rendimiento de las instalaciones de atletismo de alto nivel, las cuales deben seguir los requisitos de la IAAF (International Association of Athletics Federations).

2.3 Facilities for Jumping Events

The Jumping events are Long Jump, Triple Jump, High Jump and Pole Vault. The facilities required for these are described in Section 2.1.1.2. Further details are given in Sections 2.3.1 to 2.3.4. These facilities preferably should not be on the infield because of the potential safety and event scheduling problems.

2.3.1 FACILITY FOR LONG JUMP (See 2.1.1.2)

2.3.1.1 Layout of the Facility for the Long Jump (Figures 2.3.1.1a and b)

The Long Jump facility includes a runway, a take-off board and a landing area. Usually, it is placed outside the track along one of the straights with two adjacent runways with a landing area at each end, thus allowing competition in either direction by two groups of athletes simultaneously. This is mandatory for Construction Classes I and II.

2.3.1.2 Runway for the Long Jump (Figures 2.3.1.1a and b)

The length provided for the runway shall be 40m min. and is measured from the beginning of the runway to the take-off line. The runway shall be 1.22m ± 0.01m wide. It shall be marked by white lines 0.05m wide or broken lines 0.05m wide, 0.10m long and 0.50m apart. The runway is usually covered with the same surface as the track.

2.3.1.3 Take-off Board for the Long Jump (Figure 2.3.1.1a and Chapter 6)

The take-off board shall be rectangular and shall measure 1.22m ± 0.01m long, 0.20m ± 0.002m wide and not more than 0.10m deep. It shall be coloured white. The surface of the take-off board must be flush with the surface of the runway.

In the case of a runway with a permanent surface, this requires a built-in installation tray made of corrosion-protected metal in which the take-off board can be correctly positioned. During sport-free periods, the take-off board can be removed. If it has a track surface on its reverse side, it can be turned over and used as part of the runway. This makes it possible to combine Long and Triple Jump with two or three take-off boards (which can be used on both sides) on a Triple Jump runway.

(For the take-off board itself, see also Chapter 6.)

2.3.1.4 Landing Area for the Long Jump (Figure 2.3.1.1a)

The landing area must be 7m to 9m long depending on the distance between its nearer end and the take-off line and shall be 2.75m min. wide. Generally, a landing area length of 8m placed 2m from the take-off line is recommended. The landing area shall, if possible, be so placed that the middle of the runway coincides with the middle of the landing area. If two landing areas are situated parallel side by side, the distance between them must be at least 0.30m. If two landing areas are staggered, the separation between the two areas must also be at least 0.30m (Figure 2.3.1.1b).

The landing area should have a border not less than 0.05m wide and 0.30m high, rounded off towards the inside (e.g. wooden plank or concrete border with soft covering) and level with the ground.

The landing area must have a water permeable substructure or a suitable drainage system (draining well or canal connection) and be filled with sand to a depth of not less than 0.30m at the edges and slightly deeper at the centre.

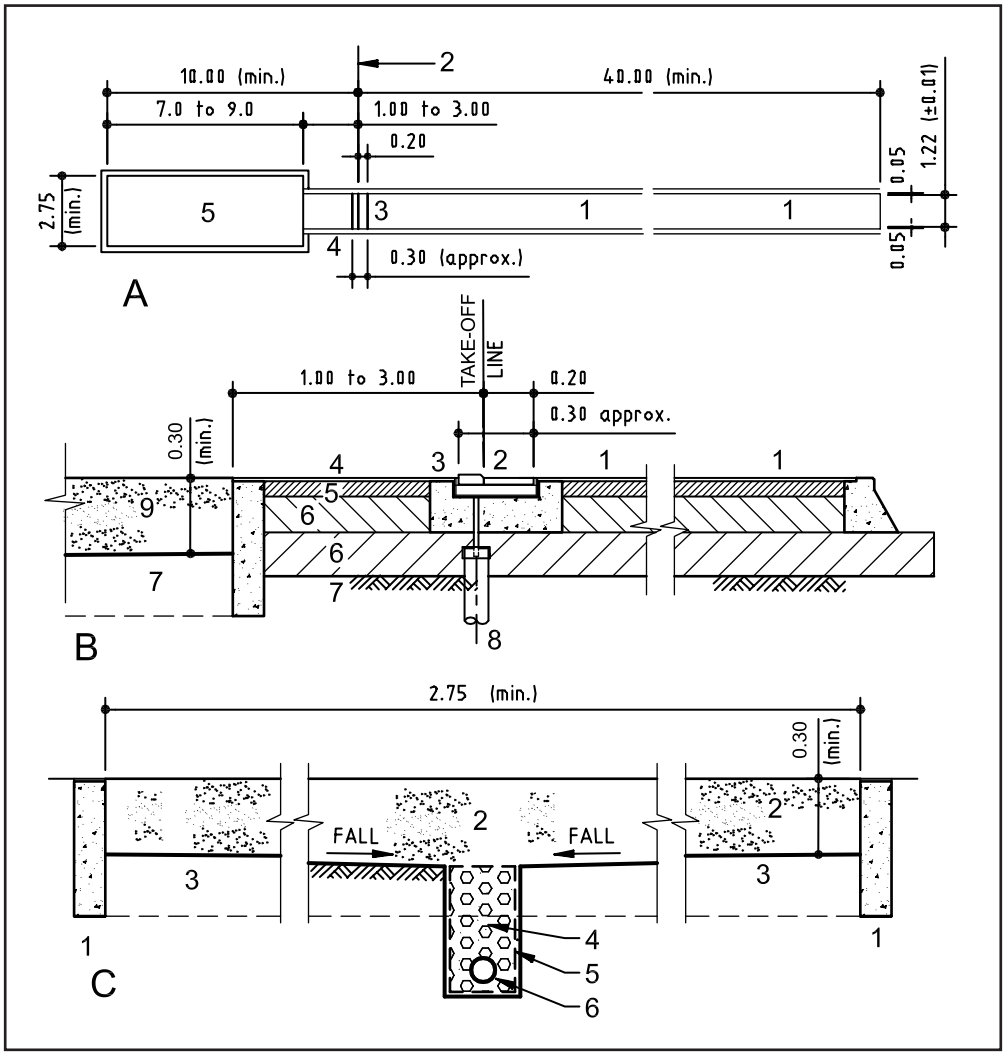

Figure 2.3.1.1a - Facility for the Long Jump (Dimensions in m)

A Layout plan
1 Runway 40m (min.)
2 Take-off line
3 Take-off board
4 Built-in tray
5 Landing area

B Longitudinal section of built-in tray for take-off board
1 Runway
2 Removable take-off board with adjustable legs
3 Built-in tray
4 Synthetic surface
5 Asphaltic concrete layer
6 Gravel base layer
7 Subgrade
8 Tray drainage
9 Landing area

C Cross section of landing area
1 Pit edge
2 Washed river sand 0 to 2mm graining, no organic components, max. 5% of weight up to 0.20mm
3 Subgrade
4 Drainage gravel
5 Geo fabric material
6 Subsoil drainage pipe

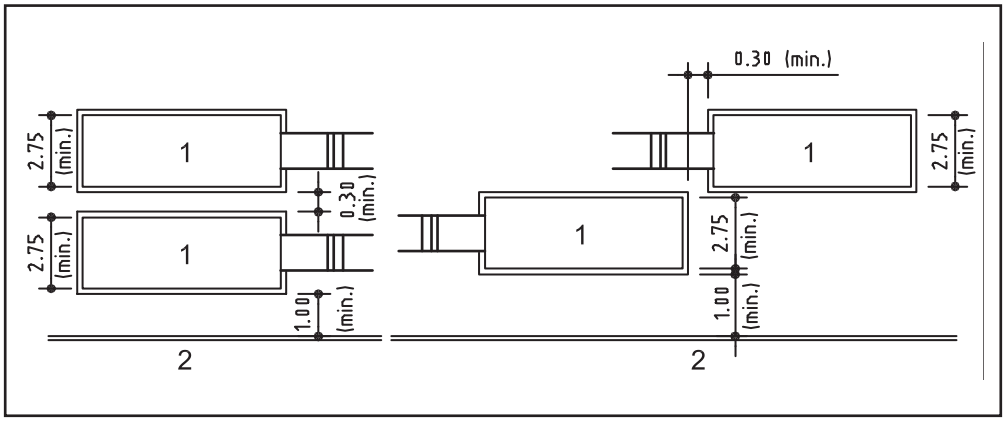

Figure 2.3.1.1b - Minimum distance of parallel situated Long and Triple Jump facilities
(Dimensions in m)

1 Landing area
2 Outer lane

The top edge of the border of the landing area, generally also dictates the level of the sand, which must be level with the take-off board. Tolerances: Landing area border level ± 0.02m compared with the highest part of the take-off board.

2.3.1.5 Safety of the Facility for the Long Jump

For the safety of the athletes, the sand must (to avoid hardening as a result of moisture) consist of washed river sand or pure quartz sand, without organic components, maximum 2mm granules, of which not more than 5% in weight is less than 0.2mm.

It is also important to ensure that the top edge of the board of the landing area is designed using flexible material and rounded off. Take-off boards installed permanently in synthetic runways are often the cause of accidents because the unevenness which necessarily occurs in the surface between them and the runway cannot be levelled out. This can be alleviated by using adjustable take-off boards placed in metal trays.

On all occasions, the overall distances between the take-off board and the far end of the landing area must be complied with.

The area beyond end of the landing area should be level and obstacle-free to allow athletes to run through the landing area.

If the horizontal jumps facilities are on the infield area, long throws should be scheduled not to clash with the use of the jump facilities for warm up and competition.

2.3.1.6 Suitability for Competition and Official Acceptance of the Facility for the Long Jump

Long Jump facilities must conform to the specifications. This can be established when inspecting the 400m Standard Track.

2.3.2 FACILITY FOR TRIPLE JUMP (See 2.1.1.2)

2.3.2.1 Layout of the Facility for the Triple Jump (Figure 2.3.2.1)

Except for the placement of the take-off board, the same facilities are used for Triple Jump as for Long Jump. For international competition, it is recommended that the take-off board shall be not less than 13m for men and 11m for women from the nearer end of the landing area. For other competitions, this distance shall be appropriate for the level of competition.

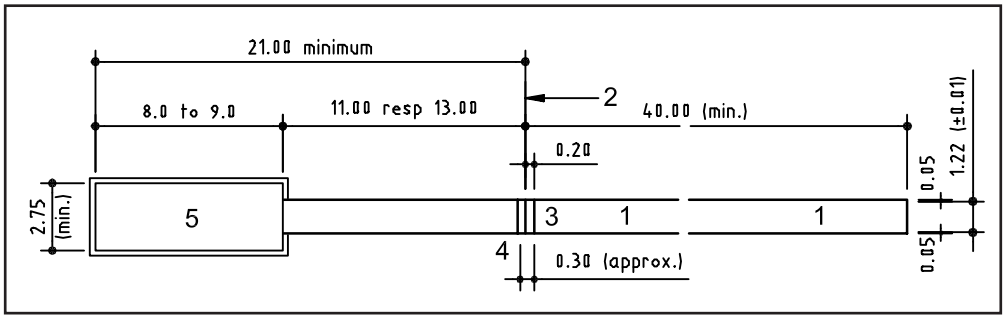

Figure 2.3.2.1 - Facility for the Triple Jump (Dimensions in m)

1 Runway 40m (min.)
2 Take-off line
3 Take-off board
4 Built-in tray
5 Landing area

2.3.2.2 Runway for the Triple Jump (Figure 2.3.2.1)

Section 2.3.1.2 also applies to the runway for the Triple Jump with the exception of the position of the take-off line.

2.3.2.3 Take-off Board for the Triple Jump (Figures 2.3.1.1a and Chapter 6)

Section 2.3.1.3 also applies to the take-off board for the Triple Jump. The integration of the Triple Jump into the facility for Long Jump requires a removable take-off board as described under Section 2.3.1.3. For Triple Jump, Sections 2.3.1.4 to 2.3.1.6 also apply.

2.3.3 FACILITY FOR HIGH JUMP (See 2.1.1.2)

2.3.3.1 Layout of the Facility for the High Jump (Figure 2.3.3.1)

The High Jump facility includes a semicircular runway, a take-off area, two uprights with cross bar and a landing area. By temporarily removing sections of the kerb, it is possible to use the oval track as part of the runway. For major championships, the High Jump facility must be large enough so that two High Jumps can be conducted simultaneously.

2.3.3.2 Runway for the High Jump (Figure 2.3.3.1)

The semicircular runway, with a radius of at least 20m, will permit approaches from every direction. If it is necessary to remove the kerb temporarily in order to be

2.3.4 FACILITY FOR POLE VAULT (See 2.1.1.2)

2.3.4.1 Layout of the Facility for the Pole Vault (Figure 2.3.4.1)

The Pole Vault facility includes a runway, a box for inserting the pole, two uprights with crossbar and a landing area. It can be located either outside the track, parallel to one of the straights or within one of the segments. When located outside the track, it is usually constructed as a "symmetrical facility" with one landing area in the middle of two runways. When located within a segment, it is usually constructed with two parallel runways with positions for landing areas at each end.

For major championships (Construction Categories I and II), the Pole Vault facility must provide for two Pole Vaults to be conducted simultaneously in the same direction, preferably side by side and with same length of runway for each.

2.3.4.2 Runway for the Pole Vault with Box (Figure 2.3.4.1)

The length provided for the runway shall be 40m min. The runway is measured from beginning of the runway to the 0-line. The runway shall be 1.22m ± 0.01m wide. It shall be marked by white lines 0.05m wide or broken lines 0.05m wide with a length of 0.1m and a distance of 0.5m. At the end of the runway, the box must be mounted flush with the runway and installed such that the top inside edge of its end board lies on the 0-line and at the same height. The 0-line shall be marked by a white line, 0.01m wide which extends beyond the outside edges of the uprights.

The dimensions of the box must comply with Figure 2.3.4.1. For convenience, it should be fitted with a drainage pipe and a cover which is level with the ground.

The runway is usually covered with the same surface as the track.

2.3.4.3 Uprights for the Pole Vault (See Chapter 6)

The two uprights must be able to be installed on horizontal bases, level with the O-line, such that each can be moved from the 0-line not less than 0.80m towards the landing area (e.g. on a built-in double rail) or in fixed sockets with movable cross bar supports.

They must be not less than 5.20m apart with approximately 0.10m between each upright and the landing mat. The lower part of the uprights shall be covered with appropriate padding to protect the athletes and their poles. The landing mats shall be recessed to take the uprights and any horizontal bases. Separate protective pads shall be installed as necessary.

2.3.4.4 Landing Mats for the Pole Vault (See Chapter 6)

With the exception of the dimensions, Section 2.3.3.4 shall apply for the landing mats. For major international competitions, the landing area shall not be smaller than 6.00m long (excluding the front pieces) x 6.00m wide x 0.80m high. It may be placed on a 0.10m high grid. The front pieces must be at least 2m long. The sides of the landing area nearest to the box shall be placed 0.10m - 0.15m from the box and shall slope away from the box at an angle of approximately 45°. For other competitions, the landing area should measure not less than 5.00m long (excluding the front pieces) x 5.00m wide.

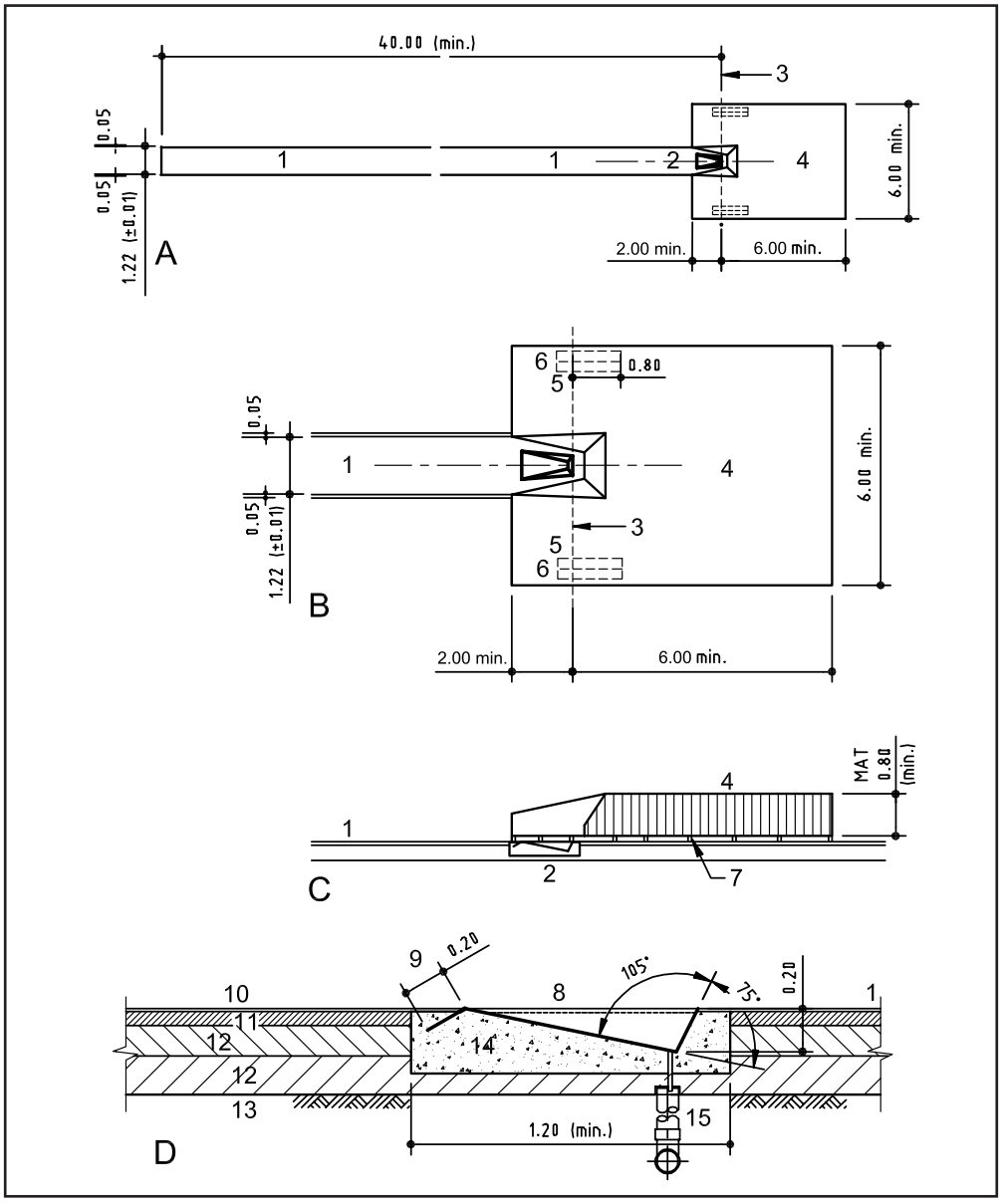

Figure 2.3.4.1 - Facility for the Pole Vault (Dimensions in m)

A Layout plan
B Detailed layout plan
C Longitudinal section
D Longitudinal section of the take-off box

1 Runway
2 Take-off box
3 0-line
4 Landing mat
5 Installation zone or ground sockets for uprights
6 Protective pad
7 Grid
8 Cover plate
9 Flange
10 Synthetic surface
11 Asphaltic concrete
12 Gravel base layer
13 Subgrade
14 Concrete
15 Drainage pipe