Preparation and Installation

Preparation for All-Weather Fibre (AWF)

Correct base preparation is essential for the performance, stability and durability of the AWF surface. The construction must be adapted to local ground conditions, drainage capacity, rainfall and climatic conditions.

1. NEW INSTALLATION – WELL-DRAINING GROUND / MODERATE RAINFALL

Base preparation

- Construct an approximately **30 cm load-bearing, well-compacting mineral sub-base**.
- Depending on the country and local availability, this may be supplied as **crushed aggregate sub-base, graded crushed stone, Type 1-style sub-base or an equivalent compactable crushed mineral material**.
- Place and compact the material in layers.
- The finished base must be **firm, stable, even and thoroughly compacted**.
- Laser levelling is recommended to achieve an even surface.

Slope

Create a slope of approximately **1–2%**, adapted to the site conditions. The slope may be formed from the centre towards both sides or towards one side. The direction should be selected according to the available water discharge possibilities.

Upper mineral levelling layer

On top of the compacted sub-base, install approximately **3–5 cm of fine, crushed and well-compacting mineral material, approximately 0/4 mm grading**.

Depending on local terminology, this may be supplied as **crushed sand 0/4 mm, crusher dust / fines, fine crushed aggregate 0/4 mm** or an equivalent compactable crushed mineral material. The required function and compactability are more important than the local trade name.

- Level evenly.
- Compact thoroughly.
- Leave firm and stable.
- Do not leave the layer loose.

The **AWF surface** is then installed.

2. NEW INSTALLATION – HIGH RAINFALL OR POORLY DRAINING GROUND

In areas with frequent or heavy rainfall, or where the natural ground has limited drainage capacity, an additional drainage system beneath the base may be required.

Clay, soft or unstable ground

Where necessary, a **geotextile may be installed between the natural ground and the mineral sub-base** to prevent soft or clay soil from mixing with the mineral layer. Geotextile **is not part of the standard construction** and should only be used where ground conditions require it.

Drainage system

Where site conditions require additional drainage, its design and installation must be determined by the **professional contractor responsible for the earthworks and base construction**, according to the specific conditions of the site.

Factors to be considered include:

- type and permeability of the natural ground;
- site location and topography;
- amount and intensity of rainfall;

- arena dimensions and slope;
- local climate and frost conditions;
- available means of safely discharging water.

PRO-RIDE does not specify a standard spacing for drainage pipes or a universal drainage design. These must be determined individually by the responsible specialist contractor.

The fundamental objective is to prevent water from accumulating beneath the AWF surface.

Upper construction

Prepared ground / drainage where required → compacted mineral sub-base → 3–5 cm fine, crushed, well-compacting 0/4 mm material → AWF

A surface slope of approximately **1–2%** should be maintained wherever site conditions allow.

3. INSTALLATION ON AN EXISTING RIDING ARENA

AWF can also be installed on an existing riding arena, provided that the existing base is stable and the drainage is functioning correctly.

Check the existing arena first

- no significant drainage problems;
- stable existing base;
- no soft or sunken areas;
- the surface can be levelled evenly.

Existing sand layer

The sand layer remaining on the arena should have a total depth of approximately **3–5 cm and must not exceed 5 cm**.

Do not add a further 3–5 cm of sand on top of an existing deeper sand layer. If too much sand is present, the excess must be removed.

- Level the remaining sand.
- Compact thoroughly.
- Create a firm and even surface.

If the existing sand cannot be compacted sufficiently

If the existing sand is too loose, too deep or cannot form a sufficiently firm surface after compaction, it should be removed completely or partially. It may be replaced with approximately **3–5 cm of fine, crushed, well-compacting mineral material, approximately 0/4 mm**. Once a firm, even and stable surface has been achieved, AWF is installed directly on top.

4. FUNDAMENTAL RULE

The quality of the AWF surface depends on the quality of its base. A firm, correctly compacted base with appropriate water management provides the best conditions for an even, stable and durable surface.

5. GENERAL GUIDANCE AND RESPONSIBILITY FOR THE BASE

The information in this document consists of **general recommendations for preparing a suitable base for AWF**. It does not replace a site-specific technical ground assessment or professional base or drainage design.

Each installation must be assessed individually, taking into account factors such as ground type and bearing capacity, topography, slope, climate and frost, rainfall amount and intensity, drainage capacity and available water discharge.

Assessment of the ground, selection of locally suitable construction materials, design and installation of any required drainage, and the correct construction, levelling and compaction of the base are the responsibility of the **specialist earthworks/base contractor appointed by the customer**.

PRO-RIDE supplies the AWF surface and **does not carry out earthworks, base construction or drainage works**. The information in this document is provided solely as **general guidance and recommendations based on our experience with AWF**.

The specialist contractor appointed by the customer must assess the specific site conditions, determine the appropriate construction and locally suitable materials, and **ensure the correct execution and functionality of the base and, where required, the drainage system**.

Material and installation examples

Crushed sand / fine crushed aggregate 0/4 mm

Crushed sand / fine crushed aggregate 0/4 mm

Crushed aggregate mineral sub-base

Crushed aggregate mineral sub-base

Crushed aggregate mineral sub-base

Compacted mineral sub-base

Examples of preparation and installation