BASE CONSTRUCTION SPECIFICATION

This specification gives guidelines for base construction in asphalt or concrete for **Rebound Ace Sports Surfaces**.

Local conditions and material will vary and may require a departure from these guidelines. The Approved Applicator should contact **Rebound Ace Sports** for recommendations to vary the guidelines if required.

1. Sub Base

1.1 Excavate to remove vegetation, topsoil and weak or saturated foundation material.

1.2 Sub base shall be non-expansive material in cut. Soil properties shall be:

Plasticity Index	-	less than 10
Linear Shrinkage	-	less than 4
CBR	-	greater than 10

Additional excavation and placing of 100mm thickness of imported fill may be needed for compliance with above properties. Refer to the Engineer for soil testing if doubt exists over subgrade properties.

1.3 Compact subgrade to 150mm depth to 95% maximum dry density AS 1289 E2.1

1.4 Allowable tolerances 0-30mm. 12mm deviation from 3 metre straight edge.

2. Asphalt/Fine Crushed Rock Base

2.1 It is recommended to install a perimeter concrete edge strip, 250mm deep x 125mm wide, laid to finished level, with 1% crosswise or diagonal fall, and including an internal/external sub -surface agricultural drain (see diagram).

2.2 Dense graded 25mm Asphaltic Concrete (Hot Mix AC) shall be laid on 150mm Fine Crushed Rock (FCR).

2.3 FCR shall be CBR 45.
Place and compact in two 75mm layers to 95% maximum dry density AS 1289 E2.1.
FCR grading shall be 28mm nominal.

AS Sieve Size	% Passing by Weight
37.5mm	100
26.5	80 - 100
19.0	70 - 100
9.5	50 - 80
4.75	35 - 60
2.36	25 - 45
425 micron	10 - 22
75 micron	4 - 12
Material passing 425 micron	
Maximum liquid limit	25
Maximum Plasticity Index	6

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2.4 Water surface after compaction and roll with steel roller to give hard, dense, tight, mosaic finish.

2.5 Allowable level tolerance to FCR, 6mm maximum deviation beneath a 3 metre straight edge when measured in any direction.

2.6 Sweep FCR surface with rotary broom and prime with AMCO or AMC1 cutback bitumen AS2157 at a rate of 1.00 litres per square metre. Allow to dry for 48 hours.

2.7 AC shall be in accordance with National Association of Australia, State Road Authorities "Principles and Practice of Bituminous Surfacing, Volume 2 - Plant Mix", or equivalent.

Dense Graded Mix

Nominal Size	7mm
Bitumen Content	4.5% to 6.5%
Stability	5kN
Compaction	50 blows each face
Flow	2.0mm to 4.0mm
Air Voids	3% to 7%

An example of typical grading is shown in Table 2.1 below.

TABLE 2.1

AS 1152 Sieve mm	Percentage Passing 7mm Dense Grade
13.2	100
9.5	100
6.7	80 - 100
4.75	60 - 80
2.36	45 - 65
1.18	33 - 50
600 um	23 - 38
300 um	13 - 26
150 um	7 - 16
75 um	4 - 10

2.8 Place and compact AC to 25mm thickness and 95% of laboratory compaction.

2.9 Allowable level tolerance to AC finished surface, 3mm maximum deviation beneath a 3 metre straight edge when measured in any direction.

2.10 Surface fall should be 1% across or diagonal to ensure proper surface drainage of water.

2.11 Refer drawing for drainage and edge detail and 1% surface fall.

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3. Reinforced Concrete Base

3.1 Reinforced Concrete Slab

50mm bedding sand to sub base, screeded and levelled to fall.
200 micron Polythene membrane, taped at all joints, over entire base area.
Minimum 20 MPa concrete strength at 28 days (preferably 25 Mpa).
F72 mesh, lapped and tied, with 30mm cover to top of slab and located on bar chairs.
Construction joint with Dowel Bars or Cracker Joint in position as per drawing.
Finish – Power float (helicopter) trowel with light broom finish.

3.2 Additives and Curing Compounds

Additives and curing compounds shall not be used. Allow 28 days curing.

3.3 Surface Tolerance

Allowable level tolerance to concrete surface, 3mm maximum deviation beneath a 3 metre straight edge, when measured in any direction.

3.4 The concrete base should be boxed and poured such that the surface finishing level is a minimum 100mm above surrounding ground level and is to be waterproof. This means that water should not be allowed to enter the concrete base from below or from the side. Special care is needed on slabs installed on 'cut and fill' sites and in areas of high water table.

Following pages contain diagrams.

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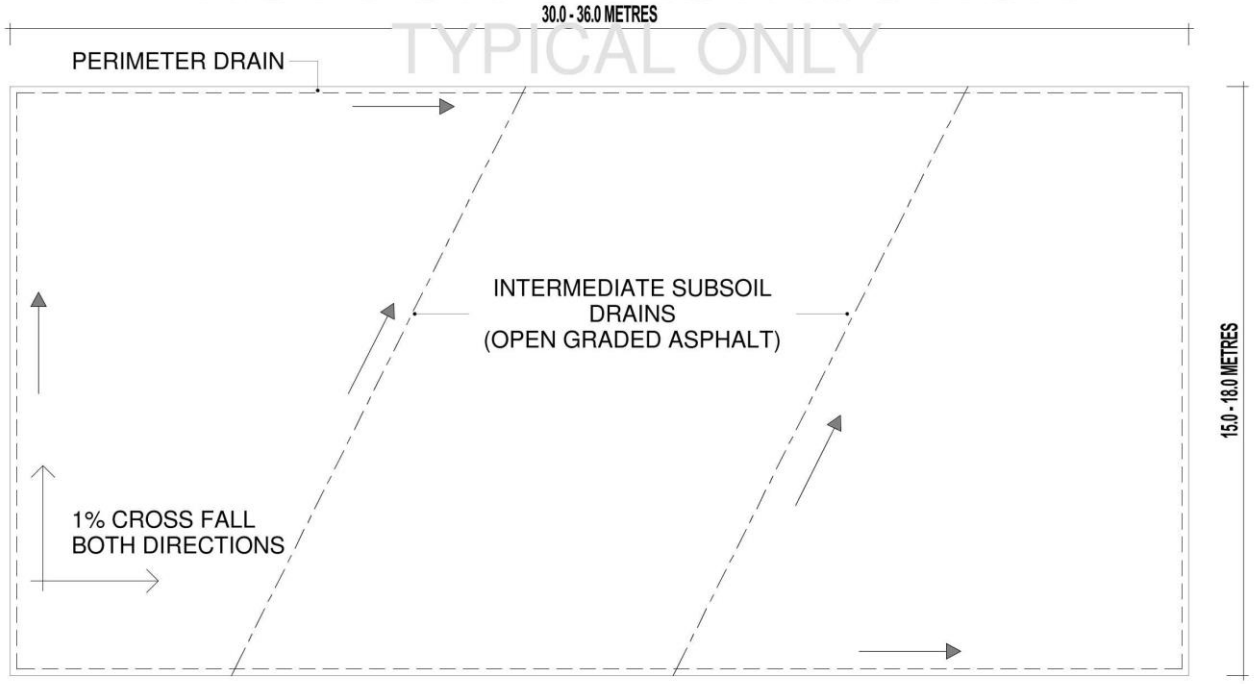
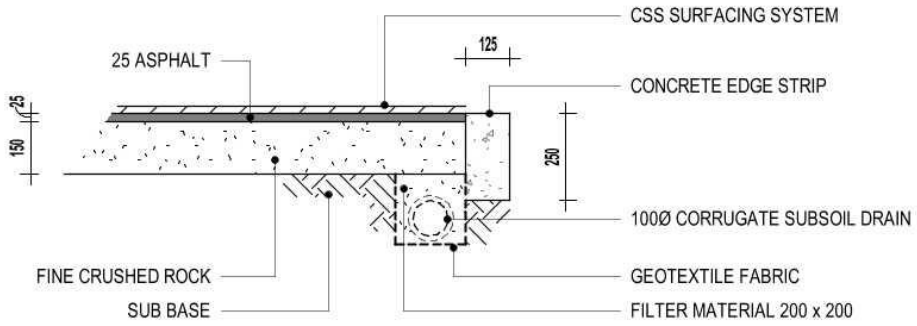
BASE CONSTRUCTION SPECIFICATION
ASPHALT





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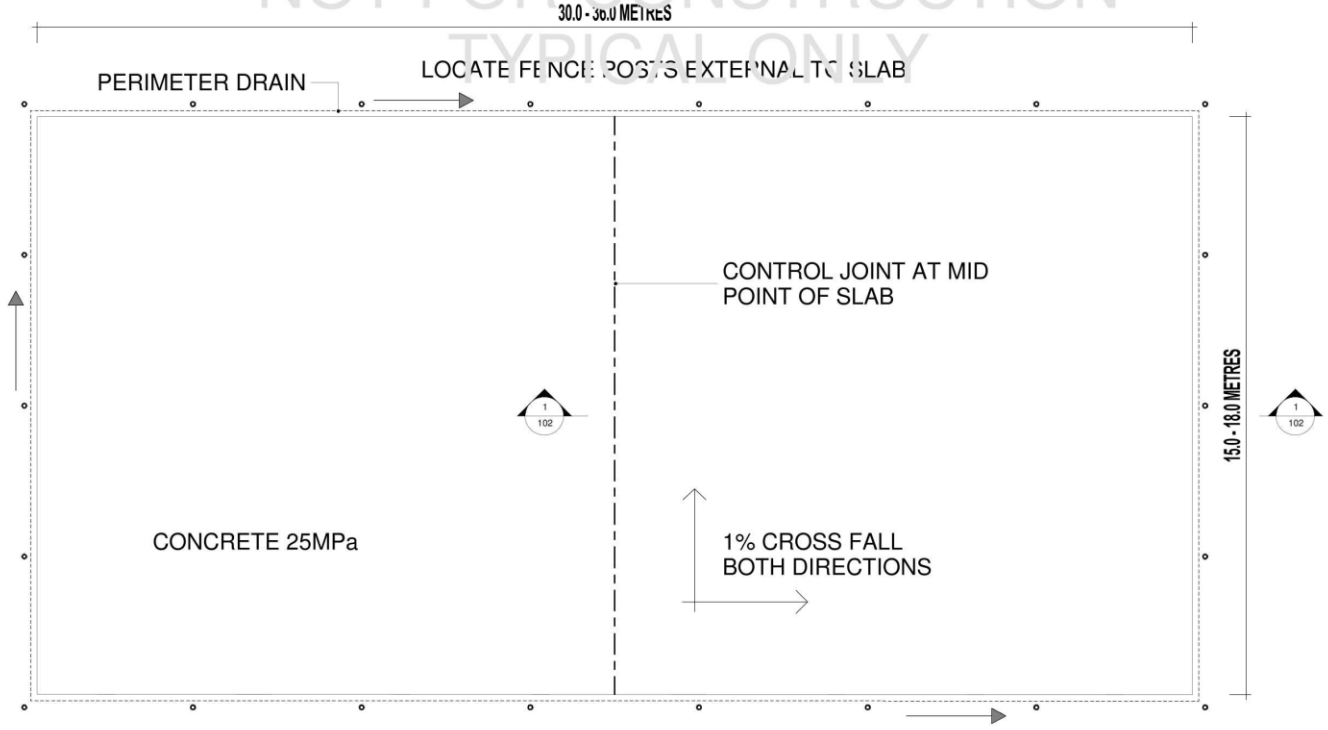
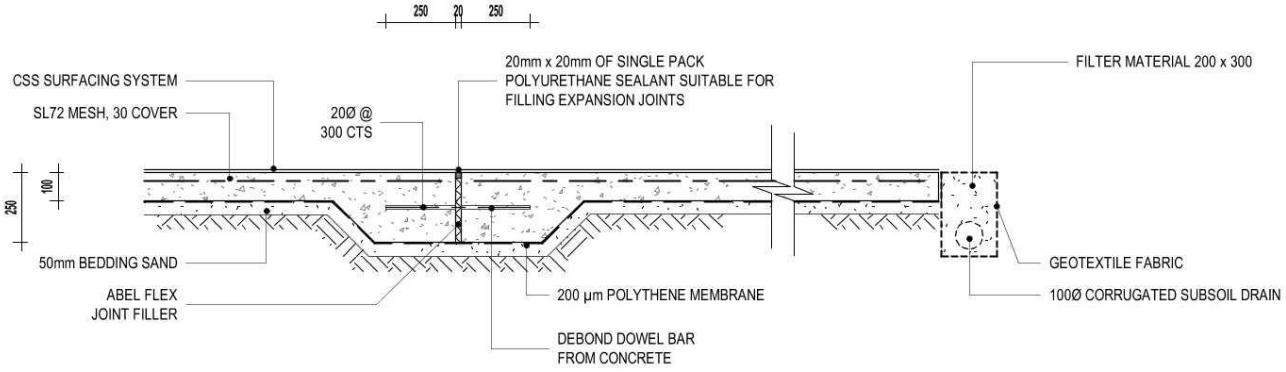
BASE CONSTRUCTION SPECIFICATION

CONCRETE





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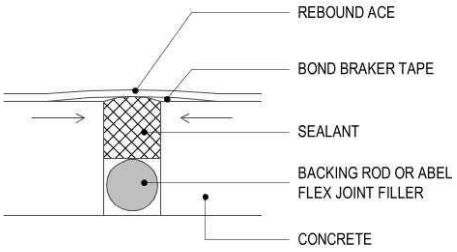
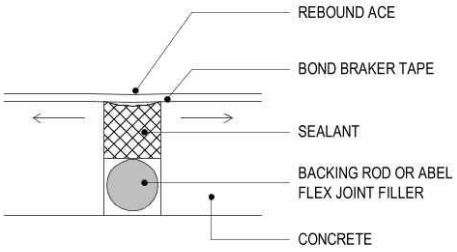
BASE CONSTRUCTION SPECIFICATION

EXPANSION JOINTS

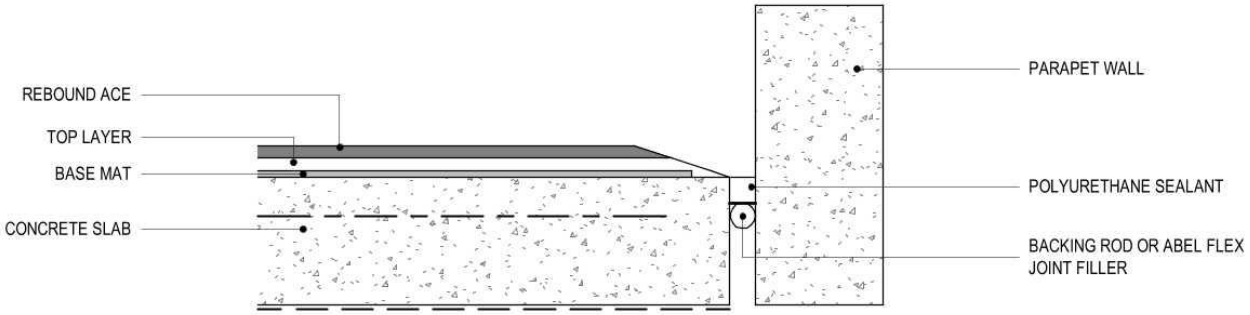


1 **Expansion**
1 : 20



2 **Contraction**
1 : 20

PERIMETER EXPANSION JOINTS



1 **Perimeter Expansion Joints**
1 : 5

NOTE: Joint sealants used in courts are generally polyurethane material or a derivative thereof. Most manufacturers indicate that these sealants are paintable after cure. Sealant should be installed when joint is at mid-range of its anticipated movement according to the temperature of the day and the substrate. These sealants can have an elastomeric expansion capacity of up to 35% of the joint width.

Painting these joint sealants with acrylic surfacing materials is possible, however due to the wide variation and differentials in product expansion co-efficients, some splitting, cracking and peeling may occur. Installation of sealant, post application of the court surfacing material, is an alternative method.

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