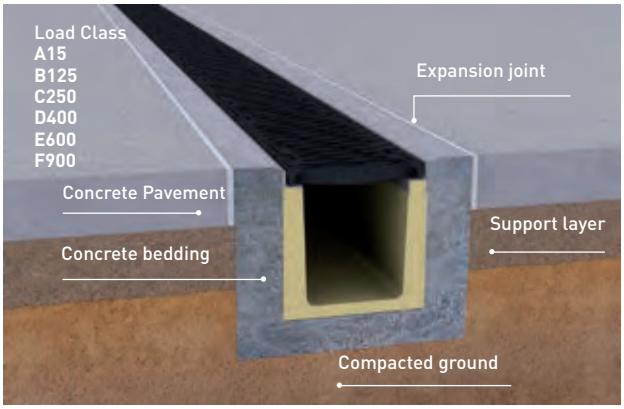
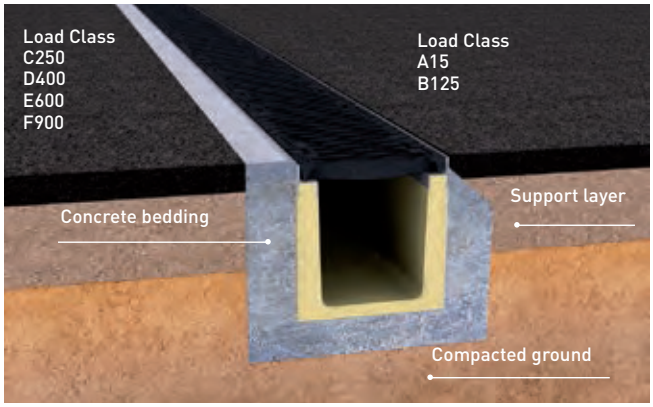
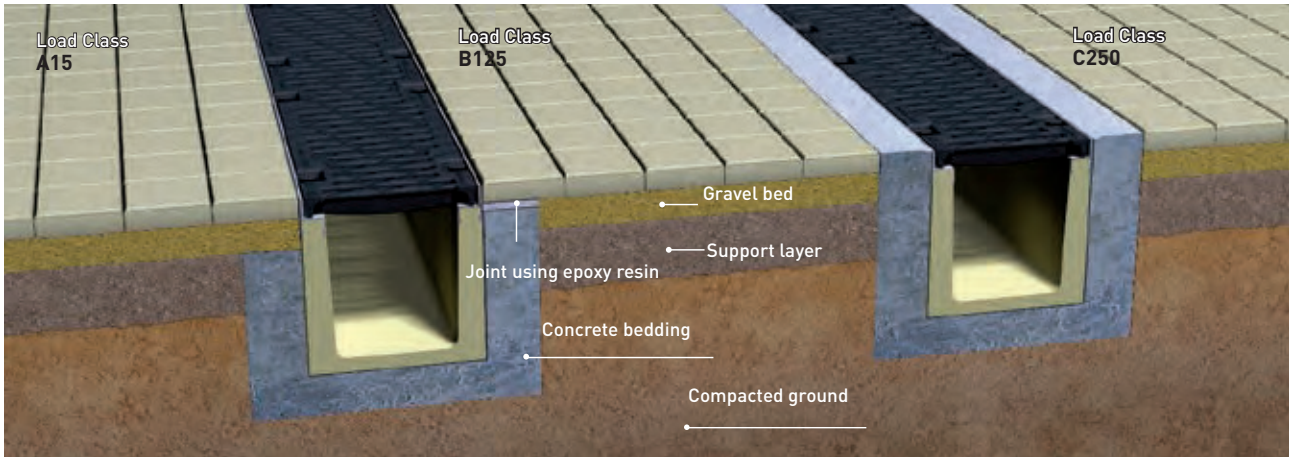
CONCRETE PAVEMENT



ASPHALTE PAVEMENT





PAVING

GENERAL CONDITIONS

GENERAL ON-SITE LAYOUT CONDITIONS

The ULMA Architectural Solutions drainage system has been designed and tested under the strictest premises of the EN1433 STANDARD, following the constructive details illustrated on the following pages.

The design of the road surface adjacent to the concrete channel/concrete bedding (concrete, asphalt or paving) must include the dilation and contraction joints necessary to prevent any tangential or perpendicular force on the concrete channel/concrete bedding. Depending on the constructive details of the road surface, the size of said joints shall be the responsibility of the Professional Management or designer. The following illustrations show what the suitable section to be installed for each type of road surface and load is, along with the recommended constructive details.

TYPES OF **INSTALLATION**

INDICATIONS COMMON TO THE DIFFERENT TYPES OF INSTALLATION

The ditch must have the necessary depth and width to comply with the concrete bedding dimensions recommended in table 1 in accordance with the required load type.

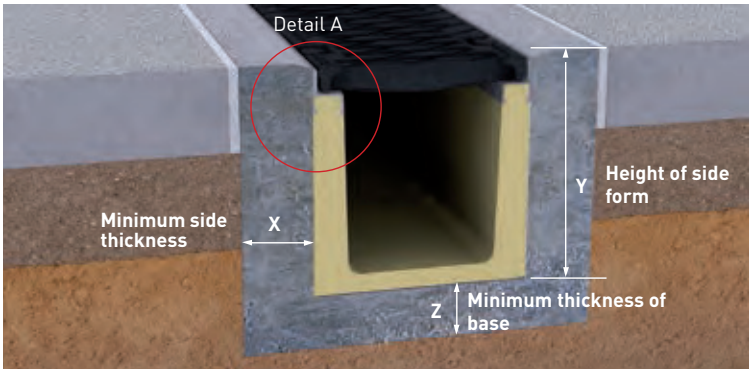
Special care must be taken in the installation of an unprofiled channel; the thickness of the grating must be taken into account so that, when the installation is finished, the grating is situated below the level of the road surface as recommended in Detail B.

In the event of a compaction process being required in the proximity of the channel (e.g. class A15 and B 125 asphalt surface), special care must be taken not to damage the edge and walls of the channel.

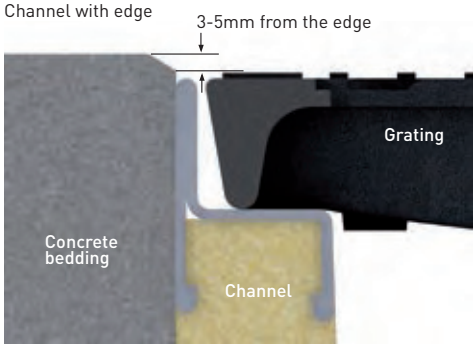
The surrounding road surface and concrete bedding must remain on a plane of between 3 and 5 mm. above the plane of the upper edge of the channel.

TABLE 1: THICKNESS OF CONCRETE BEDDING

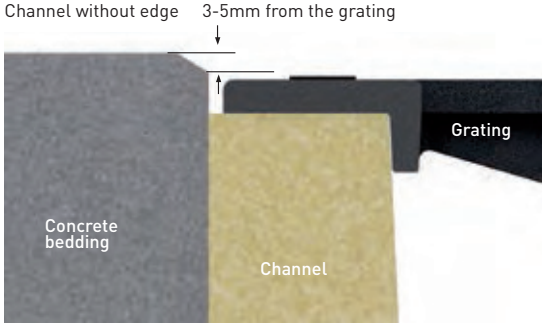
LOAD ACCORDING TO STANDAR **EN-1433**	X MINIMUM SIDE THICKNESS **(mm)**	Z MINIMUM THICKNESS OF BASE **(mm)**	Y HEIGHT OF SIDE FORM **(mm)**	RECOMMENDED WIRE MESH **(cm x cm x mm)**	TYPE OF CONCRETE **(kg/cm2)**
A15	100	100	At least at a point located at 40mm below the level of the pavement		150
B125	100	100			250
C250	150	150	Up to the level of the wire mesh and the adjoining pavement.		250
D400	150	150		15 x 15 x 6	250
E600	150	150		15 x 15 x 10	250
F900	200	200		20 x 20 x 12	250

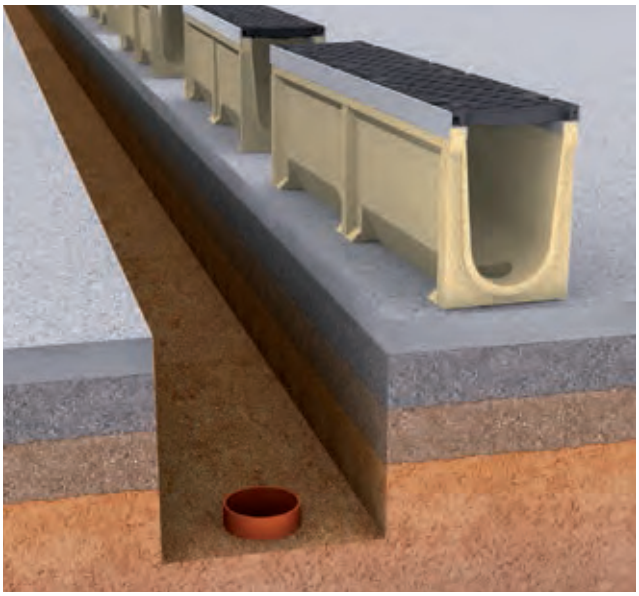


Detail A
Channel with edge



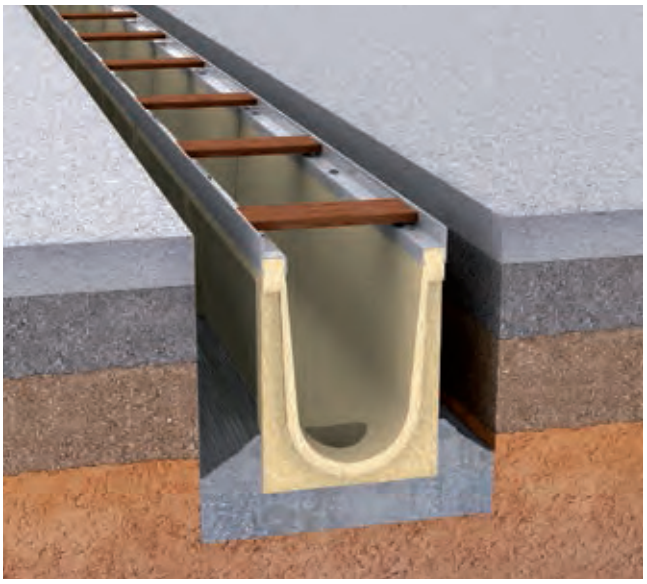
Detail B
Channel without edge

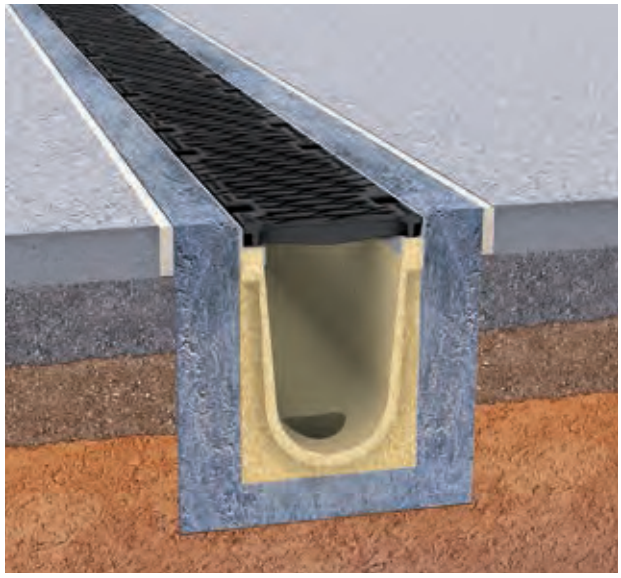




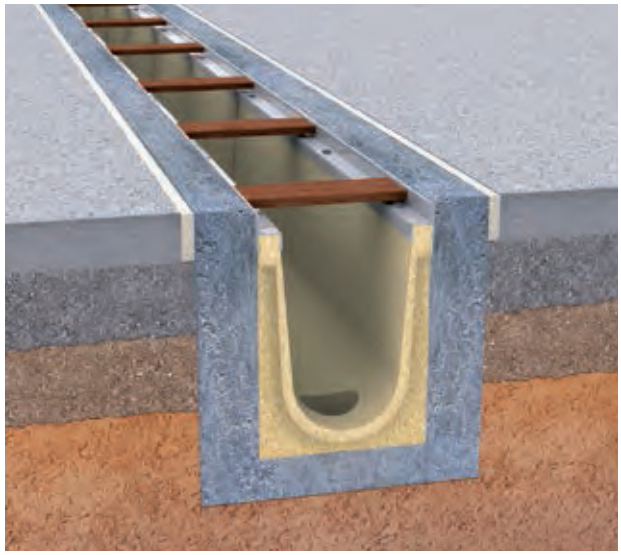
The installation of the channels shall be started at the evacuation point or at the deepest point.

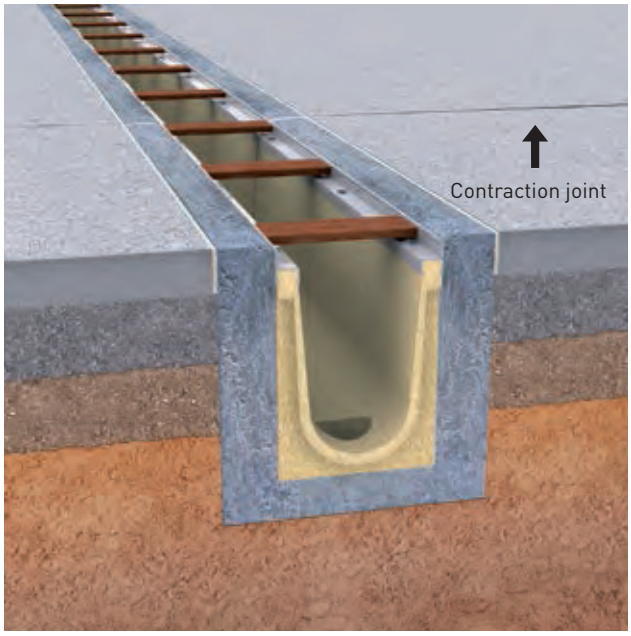
In the event of any of the layers adjacent to the concrete bedding also being made of concrete, a dilation joint must always be placed between the concrete bedding and said concrete layer.





Before tipping out the concrete for the concrete bedding place wooden battens or the gratings themselves protected with plastic, in order to prevent deformations which might impede the placement of the gratings.





When it comes to opening the pre-marked outlets (vertical or horizontal), it is recommended to mark the perimeter every 5 to 6 cm. with a drill or rotaflex, in order then to carefully open the pre-marked outlet with a hammer and chisel.

It is advisable for the contraction joint perpendicular to the channel to be placed every 6 to 7 metres and to be made to coincide with the union between channels.

To clear up any doubts you may have on the subject, we suggest you get in touch with ULMA Architectural Solutions.
ULMA Architectural Solutions will accept no claims for material damaged due to non-fulfilment of the placement instructions recommended by the manufacturer. The images shown in this catalogue have no contractual value; they are illustrative and there may be differences between them and the actual products.