



STAINLESS

Stainless Steel Drainage Specification

Why Do We Use Stainless Drainage?

Stainless steel drainage systems are normally used in factory environments where walls and floors are cleaned on a regular basis, along with the use of chemicals to aid the cleaning. The floor drainage removes the fluids and prevents the floors ponding. Where possible drainage points should be positioned to take any direct discharge.

Bespoke, robust designed systems take into account the anticipated water volumes, product type, anticipated traffic, weight exposure, invert levels and chemical useage.

Aspen offer a wide range of drainage products to suit different loadings and environments.

From pedestrian trafficked areas to heavy vehicular traffic such as fork lifts, Aspen have drain channels and covers with varying widths, different types of gullies, manholes and other bespoke items, which are ideal to aid the running of today's modern factory.

Stainless Steel Preformed Drainage

All Aspen products are manufactured on our premises in Nottingham.

All standard drainage is quoted in grade 304 stainless steel, dull polished (brushed) finish, 240 grit from 2mm thick material. Higher grades of stainless steel can be used if otherwise requested.

Stainless steel sheets are formed or pressed into the various profiles required including bespoke profiles.

Channels up to 7M long can be supplied in one piece if access into the building allows. Over 7M a site visit is required for welding the lengths together. Joints are fully welded and polished on site, by our site fitters, when a supply and fit contract.

Flanged and gasket joints can be incorporated for customers to join channels themselves, though the gasket method is not recommended as it could need maintainance over time or failure.

Drain Channel inverts normally start at 75mm, unless requested differently, with built in falls of 1:150.

Gully and Channel outlets are complete with 50mm water trap and trash basket. Drain Covers are generally with a glass bead blast finish or or chemically cleaned in the case of egg crate covers.

The gully or channel will come with an outlet pipe, for connection to be made to the buildings drainage system using a standard size connector..

The connector and the connection to the main foul drain is to be provided and carried out by others. We offer a full design service to with your drain and floor layout.

Material Data

DP1, stainless steel, 1.4301 material, also known as grade 304, is ideal for the food and drink processing industry.

Grade 304 is an austenitic grade that can be deep drawn. The stainless steel structure boasts excellent toughness, even at cryogenic temperatures and a tensile strength 520 to 700 MPa.

This property has resulted in 304 being the dominant grade used in applications like sinks, drains and hygienic utensils.

Type 304L is the low carbon version of 304. It is used in heavy gauge components for improved weldability.

The property data given in this document is typical for flat rolled products covered by ASTM A240/A240M, ASTM, EN or other standards. It is reasonable to expect specifications in these standards to be similar but not necessarily identical to those given.

Type 304 stainless steel is not suitable for Aspen kerbing as staining can occur if the kerb is not cleaned daily.

In addition, Grade 316L is often specified for breweries and juice processors so is site specific.

Welding Specification

Procedure CEATA 004. Code/Testing Standard: ISO 15614-1, ISO 5817, BSEN 287-1:2011.

Welding Process TAGS ISO 4063 141.

Welding Quality Assurance (statement of intent re ITP).

Your welded goods are required by our WQMS to be inspected visually to ISO 5817 Level D.

Our Inspection and Testing Plan (ITP) sets out our proposed approach.

Fusion welding performance for 304 stainless steel is excellent both with and without fillers.

Site welding is carried out under controlled conditions with suitable fire extinguisher equipment close to hand and under specific site rules and permits for hot work.

All welds are laid bare neat and continuous then cleaned with a fibre wheel or Acid machine. We then scotch brite the welds and clean back in, to try and blend the welds with the machine applied original polished finish as much as possible.

Weld and cleaning marks will blend over time. The welds are not sanded flush and can fluctuate in finish within the welding standard.

Channel Covers

Our normal lead time for channels and covers is 3-4 weeks.

Please request actual lead times when placing an order.

Our installation includes placing all of the covers into the channels. If we are asked to leave the covers out, we will put them into storage at our customers' responsibility, on site. Any temporary covers and the installation of the new covers at a later date would be by others.

Cleaning

Stainless Steel Grade 304 and 316 should be cleaned using warm soap and water; no abrasive/wire wool pads should be used (a soft cloth is suggested).

No acidic mediums should be added to your cleaning fluid, as this will cause damage to the skin of the Stainless Steel.

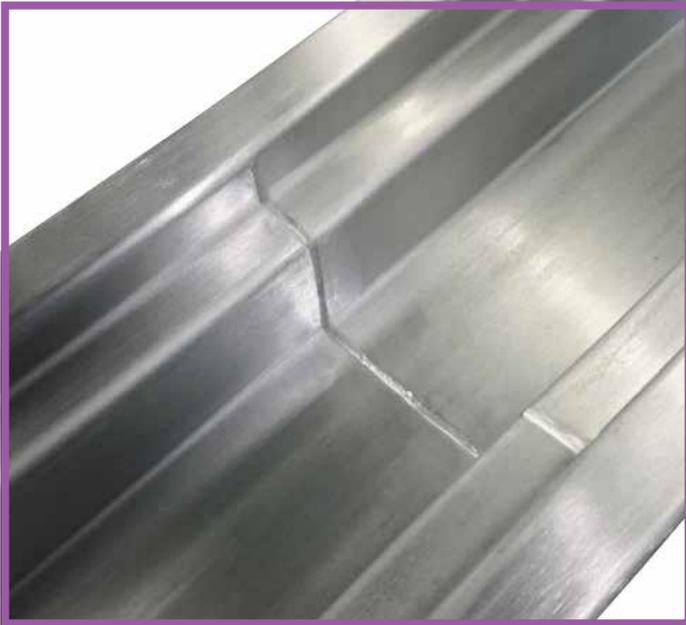
In the event of the Stainless Steel being scratched, a piece of emery cloth or Scotch-Brite should be used, only in the direction of the grain.

When a scratch has been polished out, the localised area will be much lighter than its surrounding; this is due to the top layer of skin (on the material) being removed. This will repair itself over a period of time.

Straight & Corner Joint Welds

Welded joints on straight lengths will be neat, level, polished and left flush. The finish will match the parent material but the site polish will be visible after further polishing. These welds are not removed and are left as laid.

Straight



Corner



Channel to Outlet Joint



Install & Filling

Channel fitting includes installed and fixed into position, fully welded and polished joints. Civil work, excavations, back filling etc, by others. We assume a 1 hour maximum site induction and any extraction required for welding fumes, is to be provided by others.

During the concrete back fill of the channels, care must be taken not move the channel by use of a poker or by aggressive tamping. If in doubt the concrete infill should be carried out over 2 pours.

On re-measured work, the drainage is measured to its extremities and not to centre lines. The meterage price includes for all drawings, ends, tees, corners and fixings. Any additional work due to underground, unforeseen connection problems may be charged extra.

Install



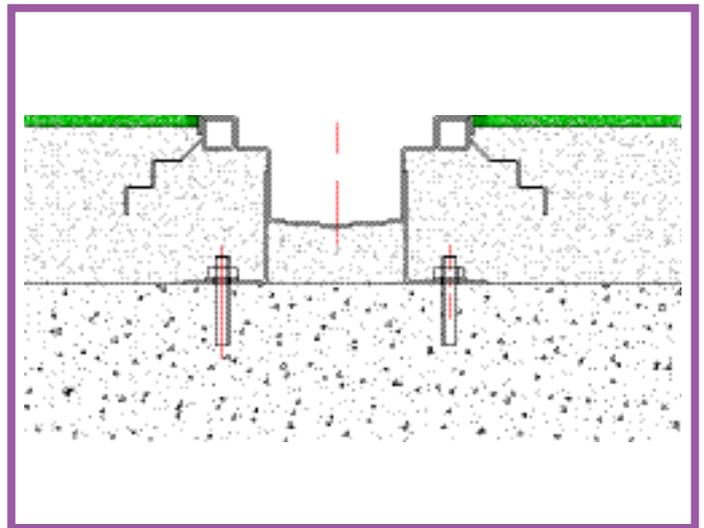
Install



Back Filling



Back Filling

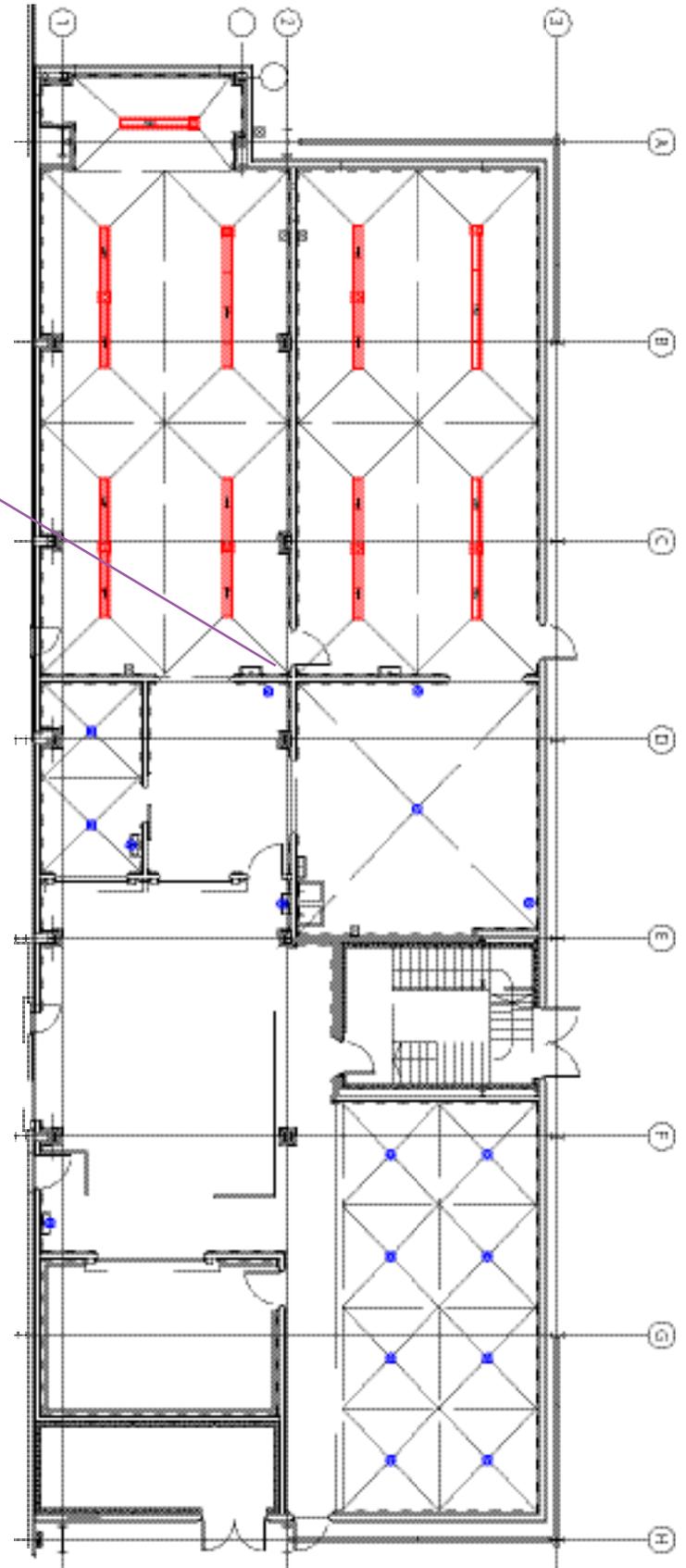
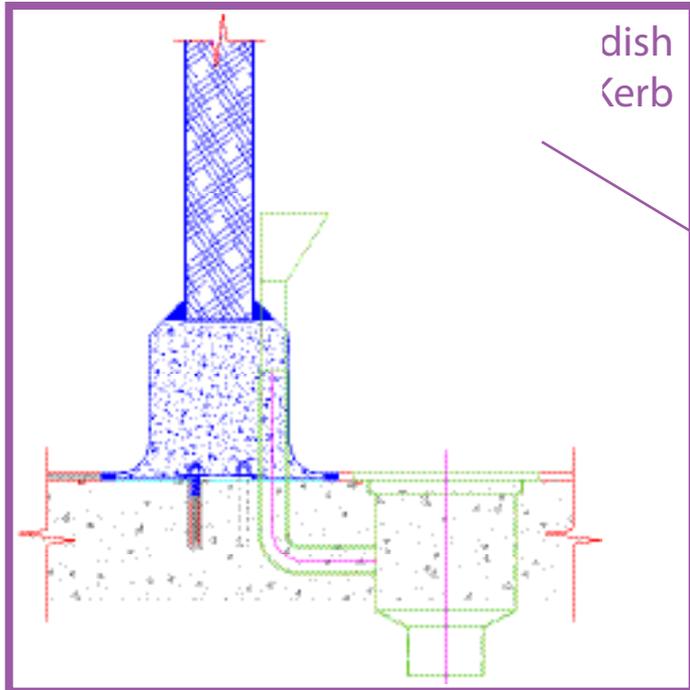


Aspen Drain Types

This drawing is an example of a food factory floor plan

Type 1 - Drain Channels with Ladder Drain Cover attached to a Drain Outlet
(black arrow indicates water flow).

Type 2 - Drain Gullies



Maintenance

Operation and maintenance manuals are provided with all installations.

Stainless steel as a finished product is maintenance friendly, NOT maintenance free.

As stainless steel consists mainly of steel it is susceptible to surface corrosion under certain circumstances if not maintained correctly.

If our quotation is successful, please refer to our O&M manual, which will give a specific maintenance procedure for the application and grade of stainless steel used.

Modification & Disposal of Drainage

The removal of drainage will result in them being destroyed.

The stainless steel of the drainage should be cut into manageable sections using an angle grinder or similar process.

Care must be taken as the edges of the cut section may be jagged and sharp.

The concrete infill should be broken up with a breaker and removed.

All metals can be 100% recycled and they should be separated by type and removed by a reputable company.

Demolition Statement

Manual handling training should be provided for all operatives involved in the demolition of the installed drainage.

A manual handling risk assessment should be carried out before demolition work starts and control measures should be established.

Wherever reasonably, practicable (especially for large or hazardous objects) manual handling should be avoided and mechanical means of handling should be sought.

Steel and stainless steel products may be very sharp and gloves should be worn at all times during handling.

All steel components should be recycled after demolition.