

Commercial Kitchens & Specialist Applications 1

Food Preparation Areas

Quarry tiles which are properly installed in food processing areas and maintained in a sound condition will provide a durable, attractive and hard wearing surface which fulfils all the requirements of legislation relating to environmental health.

A principle requirement of this legislation is that floor surfaces should be impervious, non-absorbent, non-toxic and easy to clean and disinfect. Floors should also be slip resistant and where appropriate falls included to drain liquid to trapped outlets. Adequate falls should be incorporated in floor areas likely to come in contact with acidic residues such as lactic acid in dairies and detergent spillages. Gradients between 1:80 and 1:40 are recommended.

The position of drainage channels and gulleys should be given careful consideration. Coved skirting tiles should also be included to facilitate cleaning.

Ceramic floor tiles should be unglazed, conform to BS EN 14411 Annex A and should be selected to suit service conditions. Natural Tiles products fulfil all such requirements for food processing and preparation applications and are used extensively for all such installations.

Tiles should normally be smooth but if textured to provide extra slip resistance care should be taken to ensure the establishment of a satisfactory cleaning regime. The tiles may be fixed using any of the methods described in *Technical Data Sheet*

No.7 providing they are appropriate for the sub-base material and solidly bedded. All the joints should be filled with a suitable epoxy resin grout (see *Technical Data Sheets 8 & 11*).



The installation should not be subjected to full service conditions for at least 5 days after grouting.

Adequate provision for movement should be incorporated in accordance with guidance given in *Technical Data Sheet No. 2*.

Movement joints should be impervious and the sealant well bonded to the sides of the joints. Brass or stainless steel reinforced movement joints using bonded neoprene should be used for intermediate joints, especially where there is the likelihood of wheeled traffic. All other movement joints should be filled completely with a suitable material.

Heavy-duty tiles should be specified where the surface would be liable to severe impact loading, as for example in loading bays.

Heavy Duty Industrial and Vehicular Applications

Quarry tiles are used to construct durable floor finishes in many types of industrial floor applications. Standard NTL quarry tiles have high compressive strength and impact resistance, are available in a range of slip resistant finishes, and are highly resistant to chemicals and abrasion. They are therefore suitable for all but the heaviest duty applications for which we produce an **Industrial** tile range in thicknesses of 15, 20, 25 and 30mm.



Applications where heavy-duty tiles are used successfully include factory floors, appliance bays in fire stations, loading bays in warehouses and motor vehicle workshops. Heavy duty slip-resistant tiles are also available and should be used in areas which are likely to be wet, trafficked by vehicles, or where increased slip resistance is required.

It is essential in all heavy-duty applications that the tiles are solidly bedded as detailed in *Technical Data Sheet No.7* and that the sub-base specification is suitable for the expected loading. Voids are potential points of weakness and may result in floor failure.



Use of Quarry Tiles in Shower Areas

Quarry tiles are frequently used in shower areas which, for practical purposes, can be divided into two types:

- **Communal showers** which are in more or less constant use.
- **Domestic showers** which are only used intermittently.

Communal Showers have little opportunity to dry out and this should be recognised when choosing materials and methods of construction. For such installations it is normal to use a water-tight construction whereby an impervious layer is included between the floor finish and the base and carried up the sides to a suitable height.

If the shower is to be built on a solid floor of concrete construction this must be well cured and dimensionally stable. It is usual to apply a 1:3 to 1:4 cement/sand screed which should be allowed to mature for at least 3 weeks before fixing commences.

If the shower is to be built over a timber floor, or above ground level, it is advisable to incorporate a special shower tray to form the base of the shower.

Consideration should be given at the design stage to problems associated with drainage and the slope of the finished floor.

Commercial Kitchens & Specialist Applications 2

Quarry tiles should be fixed in a water-resistant adhesive or cement based adhesive with suitable admixture. If a waterproofed construction has been carried out conventional grouting procedures may be used. Cement based grouting compositions are usually porous. If an impervious joint is required it is necessary to use an epoxide-based grout.

Special attention should be paid to sealing the joint between the floor and the wall, particularly if the installation is on a suspended floor. Silicone rubber sealants are frequently used for this purpose.



Domestic Showers pose far fewer problems:

A waterproofed structure may not be required and fixing can be carried out using an appropriate method as described in *Technical Data Sheets 7 & 8*. It is recommended, that wherever possible, a cement/sand screed or rendering is provided as a sub-base and that the quarry tiles are fixed in a water-resistant adhesive as recommended by your adhesive supplier.

Impervious joints may be provided using either a modified cement-based or epoxy-resin grout. As with communal showers special attention must be paid to sealing the joint between wall and floor.

For both communal and domestic showers it is recommended not to use an installation for at least 1 week after completion of tiling.

Use of Quarry Tiles on Counters and Kitchen Worktops

Quarry tiles are frequently used as the work surface of counters and kitchen worktops. NTL **Specification** and **Industrial** ranges of quarry tiles are perfectly suited for such use due to their low water absorption and high impact resistance.

Although construction methods vary it is usually necessary to fix to timber. In this instance we recommend fixing to 12 or 15mm exterior grade plywood. Chip-board and block-boards should be avoided as they are susceptible to moisture movement.

Quarry tiles should be fixed using the method described in *Technical Data Sheet No. 5*. Alternatively, an epoxide adhesive can be used, although this is much more expensive.

Quarry tiles must be grouted using an epoxide-based grouting compound and we particularly recommend the use of Ardex epoxy as described in *Technical Data Sheet No. 8*. Cement based grouts should normally be avoided because of the likelihood of staining, possible build up of bacteria and slow chemical attack by the mild acids (such as in lemon juice) normally found in kitchens.

Wherever a worktop abuts a wall it is our recommendation that a suitable flexible sealant be used in these joints.

It is not necessary to apply polyurethane or other proprietary sealants to quarry tiled work surfaces.

Vertical Cladding

NTL quarry tiles are frequently used for vertical cladding. Backgrounds may be of common brickwork, calcium silicate brickwork, in-situ concrete, concrete blocks or cement-based boards.

It is a good general rule to leave a wall for at least 4 weeks before the start of cladding or rendering. This is particularly important when cladding onto walls of lightweight aerated concrete blockwork.

and with walls of calcium silicate brickwork construction because of the potential movement associated with the drying out of these materials.

Cement/sand rendering is the preferred backing on which to fix NTL quarry tiles. On dimensionally stable backings of common brickwork or similar a 1:3 to 1:4 cement/sand mix is usual. For autoclaved aerated concrete blocks, lightweight concrete and calcium silicate brickwork, a leaner mix of 1:4 to 1:5 is more normal.

Rendering up to 13mm in thickness may be applied as a single coat and this would be considered the norm for cladding applications.

The rendering must be completed at least 14 days before the cladding begins and the surface should be left with a wood float finish.

Cladding Tiles

Natural Tiles Ltd also provide a unique range of 10mm thick cladding tiles in brick format sizes of 200 x 76mm and 200 x 50mm.

They are produced to exacting floor tile standards and far exceed the specification of traditional brick slips. NTL cladding tiles can be used in the manufacture of cladding panel systems or fixed on site. They are suitable for use with polyurethane and cement-based adhesives.

They are available in all 8 shades of the Naturals range, 4 shades of Quarryflash range and in 8 Rustic Heritage blend shades

For full technical specifications please see contact our sales department.

