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## Types of Ceramic Tiles

There are various types of ceramic material found in the manufacture of tiles but the most common of these are divided into two major categories – Gres (commonly called Ceramic) and Porcelain. Within the porcelain category there are also a number of types.

### **Gres / Ceramic**

Gres tiles are a type of earthenware, which is porous and needs to be glazed to enable it to be used in areas of high moisture such as bathrooms and kitchens. Ceramic tiles are manufactured from raw clay in both red and white body depending on the origin of the clay. As a general rule, white clay originates from South West England and red clay originates from European countries. These tiles due to being porous, are covered in a glaze which makes them suitable for both wall and floor uses, but the glaze hardness also needs to be checked as this determines a floor tile's suitability to specific environments. Reference should be made to its classification according to the PEI (Porcelain Enamel Institute) test to see if it will withstand the wear encountered in the intended environment.

### **Porcelain**

Porcelain is actually a type of ceramic but is made from a mix of clays and minerals and is fired at a higher temperature than ceramic. The primary characteristics of porcelain tiles are low porosity (water absorption less than 0.5%) and colour that usually penetrates the entire body of the tile. Porcelain tiles are extremely durable due to their low porosity and can be either unglazed, glazed or polished to produce a wide variation of aesthetic effects and performance qualities.

### **Unglazed Porcelain Through / Full Body**

Unglazed porcelain is extremely durable and frost proof and can be produced using different methods to achieve diverse looks, in most cases these methods cause the colouration effect to penetrate the entire body in which case the tile is known as through or full-bodied porcelain. Unglazed tiles can be found with a wide range of different styles dependent on how they are manufactured but the key element is that they will generally be very hard wearing. Typically, high quality technical unglazed porcelain tiles are used where high resistance to foot traffic is required (generally matt, lappato or textured) i.e. retail stores, shopping centres, etc.

## **Polished**

Polishing is a technique where unglazed porcelain is polished using fine rollers and results in a high gloss finish. Surface polishing whilst providing a very smooth, shiny surface, opens the closed pore structure of the porcelain body and therefore polished porcelains are more susceptible to staining because dirt gets trapped in the opened surface pores. For this reason, particular care must be taken when using a contrasting grout colour with polished porcelain tiles or when selecting a light or lightly patterned tile. Sealants or other pre-surface treatments can prevent this problem as long as routine re-application of the protective treatment is maintained. Polished porcelain tiles can be slippery in wet conditions and are more prone to scratching (particularly evident on plain darker colours). Nowadays however, a lot of polished porcelain is sold pre-sealed but we still recommended that polished porcelain tiles are sealed both before and after grouting regardless.

## **Glazed Porcelain**

With glazed porcelain, a porcelain body is covered in glaze usually for decorative or hardwearing benefit. The glaze provides the decoration and can be marble, stone or any number of different designs. As with glazed ceramic, the glaze hardness resistance determines a tile's suitability to specific environments and use, and some glazed porcelains should only be used in light or moderate traffic areas. Glazed porcelain tiles intended for floor use should be evaluated based on its PEI (Porcelain Enamel Institute) test classification.

If you are unsure about tile types and finishes for a project, always seek professional advice. It is essential to follow both the manufacturers and your supplier's recommendations prior to fixing to ensure and achieve a satisfactory result.

**See our separate information sheet on PEI Floor Tile Grading**