Understanding Tile

Tile comes in a variety of styles and types which offer different features and benefits, so figuring out which tile to purchase is difficult, but if you use the standard icons and language on the packaging, you can easily identify whether the product is right for your project.

Grade

Represents the quality of the tile when visually inspected

- **Grade 1 = No imperfections at 3'**
- **Grade 2 = No imperfections at 10'**
- **Grade 3 = Major imperfections**

Home Depot only sells Grade 1 tiles

C.O.F

Stands for the coefficient of friction and represents the slip resistance of the tile

Scale ranges from 0 to 1

Higher score means better slip resistance

Package may list slip resistance for both wet and dry tiles

Frost Resistance

Indicates the tile is frost resistant

No tile is freeze proof

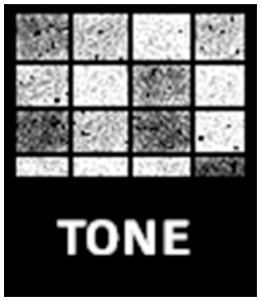
Tile must be vitreous or impervious to be frost resistant

High Definition

Also known as reveal imaging or 3D printed

Creates the look of other flooring products, like stone or hardwood, with the features of porcelain tile

Tone



Variation in look from one tile to another within same tile package

Low tone means tiles are nearly identical

High or heavy tone means tiles vary greatly in color and/or pattern

Water Absorption

Stands for water absorption and lists the amount of water the tile will absorb

Value equals the percentage of the tiles weight in water it will absorb

- **Non-vitreous tile absorbs more than 7%**
- **Semi-vitreous tile absorbs 3% to 7%**
- **Vitreous tile absorbs 0.5% to 3%**
- **Impervious absorbs less than 0.5%**

PEI

Stands for Porcelain Enamel Institute and is a rating of the durability of the tile

Higher number means better flooring

- **Use PEI 1 & 2 on walls**
- **Use PEI 3 in residential floors and walls**
- **Use PEI 4 & 5 in commercial applications**

Tile Types

The differences in tile are not just about style. The composition of the tile affects the tile's functionality and performance in different environments and applications.

Questions to consider

- ✓ **Indoor or outdoor?**

  For installation outdoors where there could be moisture or frost, select a less-porous tile. Porcelain, quarry, and terracotta tiles are good for outdoor use.

- ✓ **Wall or floor?**

  As a rule, any tile that is rated for installation on a floor can also go on the wall. But tile that's specified only for walls is not durable enough for the floor.

- ✓ **Textured or smooth?**

  Floor tile that is too smooth can cause slips and falls, especially in a wet environment like a bathroom.

Porcelain

Very hard

Durable

Water resistant

Frost resistant

Can go anywhere

Ceramic

Easy to cut

Generally less costly

Good for indoors and dry environments

Not as durable as porcelain

Natural Stone

Natural material shows variation in tone and texture

Characteristics vary by type of stone

Marble
- **Soft to medium**
- **Absorbent**
- **Variety of colors**

Travertine
- **Soft**
- **Absorbent**
- **Variety of earth tones**

Granite
- **Hard**
- **Absorbent**
- **Acid resistant**
- **Variety of colors**

Slate
- **Soft to hard**
- **Absorbent**
- **Variety of colors**
- **High maintenance**

Glass

Decorative & stylish

Does not absorb water

Cannot go on floors

Quarry and Terracotta

Hard and durable

Great for outdoor patios

Water and frost resistant

Subfloor

Beneath every finished floor, there is a rough floor, or *subfloor*. The type of subfloor you have affects the type of finished flooring you can install.

In new construction, you can easily see what the subfloor is made from. In a home where there's already carpet or other flooring, here are some rules of thumb to help you determine what subfloor you have.

What kind of subfloor is it?

Above grade – wood subfloor

On grade
- Basement or crawl space – wood subfloor
- No basement or crawl space – concrete subfloor

Below grade – concrete subfloor

Where can you install?

can go over:

Plank or plywood

Particle board or OSB wood

Concrete

can go over:

Plank or plywood

OSB wood

Concrete

can go over:

Plank or plywood

Concrete (if the flooring is specially designed)

can go over:

Plank or plywood

OSB wood (with backer board)

Concrete

can go over:

Plank or plywood

OSB wood

Concrete

can go over:

Plank or plywood

Particle board or OSB wood (with ¼" sheet of plywood)

Concrete

Tile Set

Tile set refers to all of the products which go into installing a tile flooring project. Below are several of the major tile set categories and their key features and benefits.

Subfloor Preparation

Seal seams, fill cracks and holes, and level floor before installing tile

Use appropriate products that match your subfloor type

Backer Board

Boards made of cement or fiber cement combination

Use between the tile and the subsurface to provide a strong, even foundation

Attach with thin-set and screws

Adhesive

Use to adhere tile and backer board to subsurface

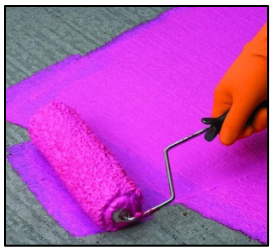
Thin-set mortar:

- **Form of cement**
- **Mix with water and apply with a trowel**

Mastic:

- **Form of glue**
- **Easy to use in pre-mixed container**
- **Only use on walls**
- **Do not use in wet areas**

Moisture Barrier



Use in wet areas to prevent moisture from damaging subsurface

Rolled waterproofing membranes:

- **Underlayment sheeting**
- **Place under backer board**

Liquid waterproofing membranes:

- **Resembles paint**
- **Apply over backer board using brush, roller, trowel, or sprayer**

Grout

Use to fill the gaps between the tiles

Apply with grouting float

- **Use sanded grout for widths > 1/8”**
- **Use unsanded grout for widths < 1/8” or glass tile**

Available in a variety of colors

Sealer

Protects tile and grout from stains and moisture penetration

Apply with sponge, brush, foam roller, or spray bottle

- **Topical sealers create protective barrier on top of tile and grout**
- **Penetrating sealers absorb into tile and grout**