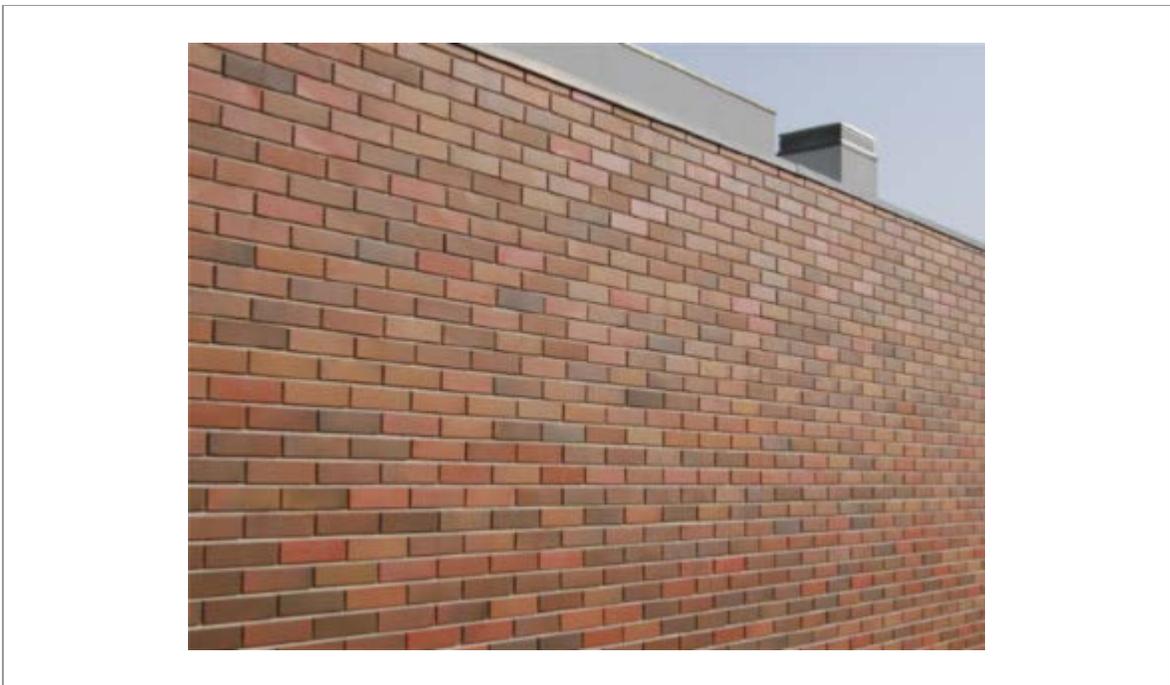


Tips for Painting Clay Bricks

Clay masonry units, commonly referred to as clay bricks, are formed by either extruding or pressing. Extrusion is the most common and produces a more dense product. Pressing produces a smoother and more accurately shaped brick.

These clay masonry unit surfaces require durable, cleanable, and abrasion, chemical and UV resistant finishes.



Clay brick challenges to be considered

Alkalinity

- While clay bricks are not significantly alkaline in nature, the mortar used in this type of construction tends to be highly alkaline.
- This alkalinity, when combined with moisture, can be chemically destructive to oil-base or alkyd paints.

Efflorescence

- Produced when soluble alkaline salts migrate to the surface, efflorescence produces an unsightly white deposit that is highly alkaline.
 - It can occur prior to painting as a result of normal curing or to a greater extent when moisture is allowed to saturate the surface.
 - It must be removed prior to painting. A mild acid wash is often employed for this purpose. Efflorescence may also appear on a painted surface. This indicates that moisture is escaping through the paint film bringing the soluble salts with it. The source of the moisture must be eliminated to prevent its re-occurrence.
-

Preparation of a clay brick surface

Surface preparation is one of the most important factors in achieving a coating with the desired lifecycle. Without correct surface preparation, the coating may prematurely fail leading to a financially costly redo at the inconvenience of the client or occupants.

The following surface preparation should be adhered to as a minimum for all clay brick projects.

- Mortar joints must cure for no less than 28 days.
- Remove all dirt, loose mortar, scale, powder, mortar spatters, oil and grease, and any other foreign matter by pressure washing if appropriate ([See 1.6 Pressure Washing](#)).
- If rust or any stains are present, they should be removed by abrasion or by chemical cleaning ([See 1.5 Rust Stain Removal](#)). If a chemical treatment is used, all residues must be completely removed from the surface before painting.
- Oils and grease shall be removed by an emulsifying cleaner or appropriate TSP wash followed by a thorough rinsing with clean water. Power washing has also been found to be effective. (see link above)
- The surface must be allowed to dry out completely (moisture content in, and on, the substrate shall not exceed 12%).

- Cracks, holes, broken off corners, joints, and other surface imperfections must be repaired and filled with an appropriate material.
- All patches are to be made flush and are to blend with the texture and appearance of the adjoining surfaces. Such patches must be dry and fully cured before application of any coatings.

Consideration should always be given to the Environmental conditions before and during application, and during drying ([See 1.1 Environmental Conditions](#)).

Clay brick coating systems

Alkali resistant primers ([MPI #3](#) or [MPI #223](#)) should be the first coat as part of a coating system.

Normal Conditions

Latex systems are preferred over alkyd systems for use in normal conditions, due to their greater alkali resistance. Latex systems also provide a higher degree of permeability which allows any entrapped moisture to escape from the surface without causing blistering or delamination of the coating.

- EXT 4.1A - LATEX (over w.b. alkali-resistant primer) Default Gloss Level 3/4 using Latex products from [MPI #15](#)

Aggressive and Exterior Conditions

Higher performing acrylic and acrylic modified coatings, such as Water-based Light Industrial, may be used on smooth faced bricks for residential, commercial and light industrial locations in high traffic, more aggressive areas.

- Ext 4.1C - W.B. Light Industrial Coating (over w.b. alkali-resistant primer) Default Gloss Level 3 using products from [MPI #161](#)

For exterior service, conventional epoxies will require a colorfast acrylic or polyurethane topcoat.

For more information refer to the MPI Online Coating Manuals.

[Architectural Painting Specification Manual](#)



Products tested by MPI are listed in the MPI Approved Products List (APL) under the relevant standard #. Look out for the MPI Approved Product Label on paint cans!

[CLICK HERE](#) for more information.