



MINERAL SILICATE STAINS TO IMPROVE RAW CONCRETE APPEARANCE

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Keim Mineral Coatings

Agenda

- Exposed, raw concrete in building design
- When concrete is not perfect
- How concrete stains work
- Trial ensures precise aesthetic results
- Visual examples of stains in action
- Reference projects
- Questions

Exposed Concrete Evolution

1950's use of concrete underwent fundamental change

- Design potential and sculptural qualities were openly explored in modernist and brutalist designs





Exposed Raw Concrete Today

- At its best, concrete relates a story
- Provides a view of the construction process
- Affords unique workmanship to be seen
- Architectural ideal: form follows function
- Thermal mass is efficient and sustainable



PIGMENTED MINERAL STAIN

WHERE TO USE

Challenges of Exposed Concrete

- Budget and concrete construction techniques can render exposed concrete aesthetically challenging
- Cast concrete color can be variable
- Needed repairs can mar concrete appearance

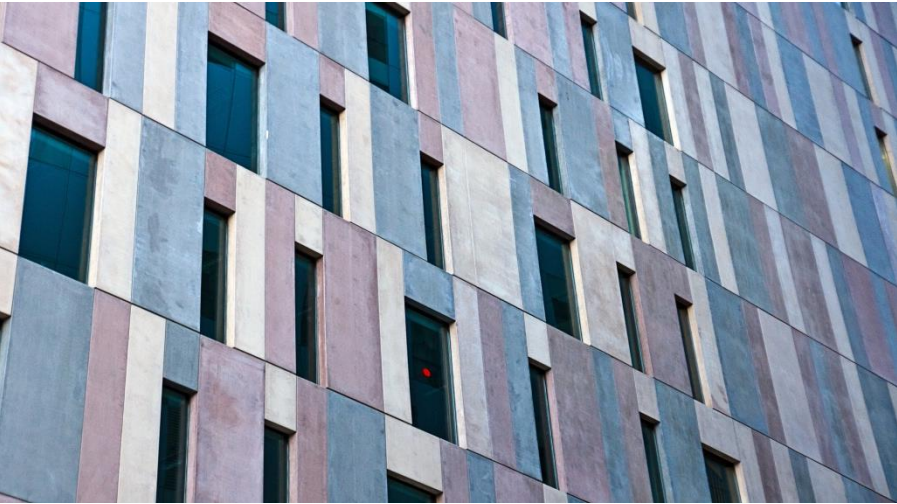


Resolving Exposed Concrete Challenges

- Align visual flaws without “covering up”
- Maintain structure and texture while consolidating weathered or weakened concrete
- Mineral matte, natural appearance
- Easy to apply on large scale
- U.V. stable and durable for decades
- Never “seal” concrete—allow it to breathe naturally

Decorating exposed concrete

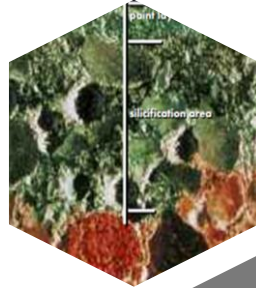
- Mineral stains are ideal for adding color and contrast
- Leaves exposed concrete looking “raw”
- Protects concrete from weathering



PIGMENTED MINERAL STAIN

HOW IT WORKS

How Mineral Stains Work

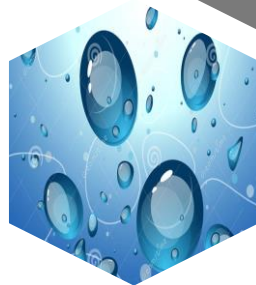


Penetrates and becomes part of concrete

Petrification process ensures irreversible bonds with concrete

U.V. stability of binder and pigments ensures decades of fade-resistant durability

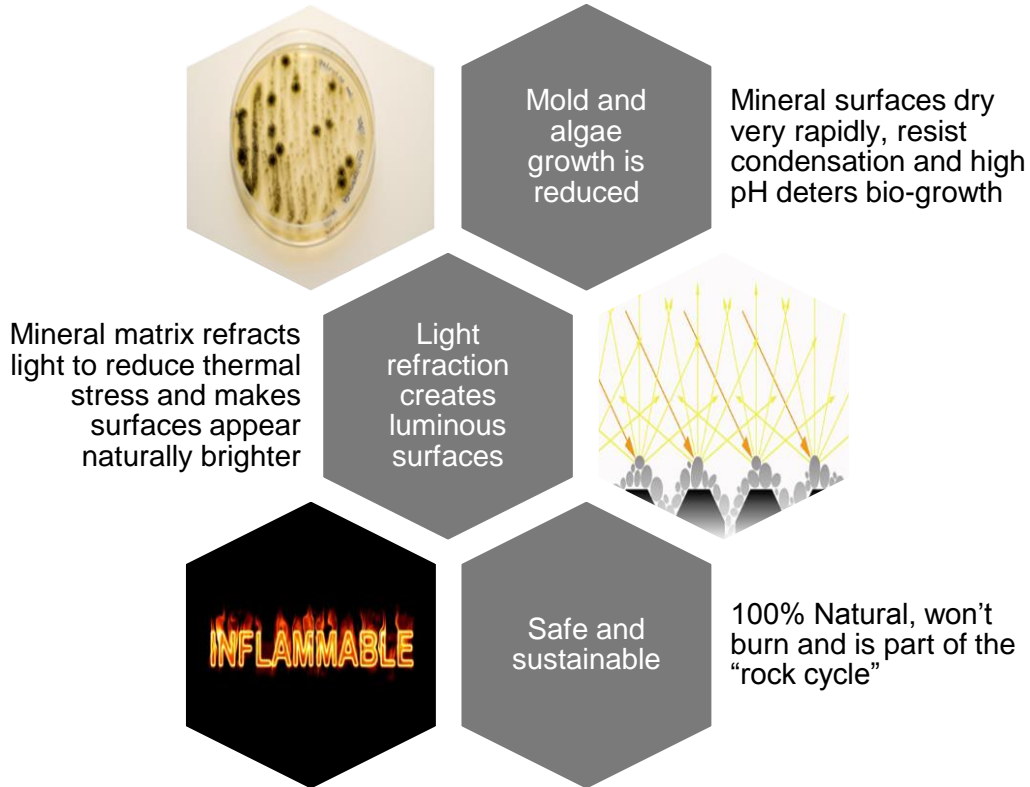
Earthen oxide pigments can never fade



Completely vapor permeable

Natural moisture and thermal balance

How Mineral Stains Work



Legendary Durability



Commissioned in 1881, painter Christian Schmidt used mineral color from Keim to decorate the town hall in Schwyz, Switzerland

PIGMENTED MINERAL STAIN

TRIAL ENSURES PERFECT COLOR AND
TRANSPERANCY

Mock-ups Ensure Best Results

CONCRETAL® Pigmented Mineral Stain for Concrete

Appearance of same color stain from full color (opaque at left) to very translucent (at right)







Before (above) and after
application of Concretal stain
(right)

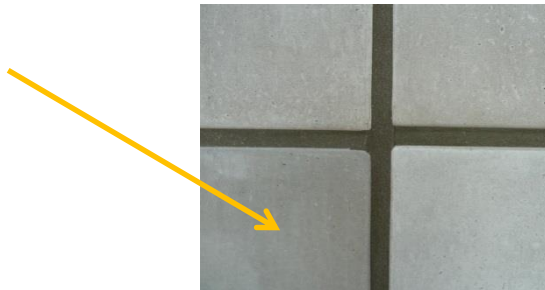








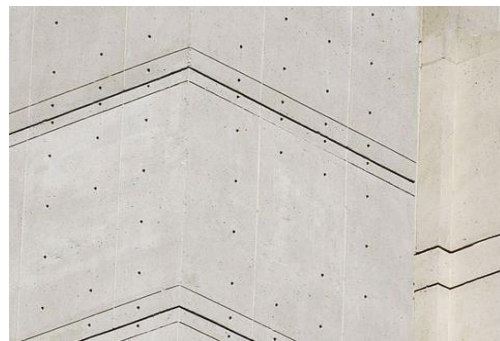
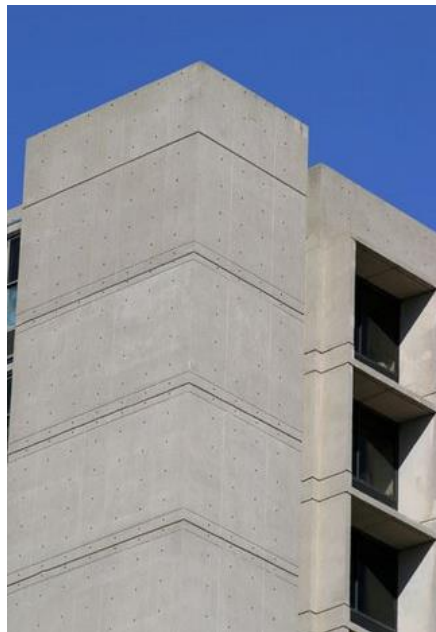
National Library, Stuttgart, Germany





Hamilton House, Univ. of Pennsylvania





CONCRETAL[®] PIGMENTED MINERAL STAIN

REFERENCE PROJECTS

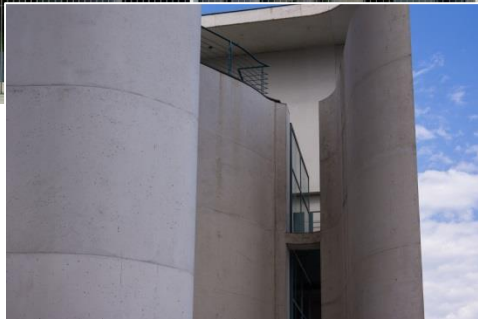
Memorial Stadium Cal Berkeley



- Historic concrete construction completed in 1923
- Required natural concrete appearance and low-maintenance, long lasting finish
- Concretal Lasur Pigmented Mineral Stain
- Completed in 2010—12
- Owner: The University of California



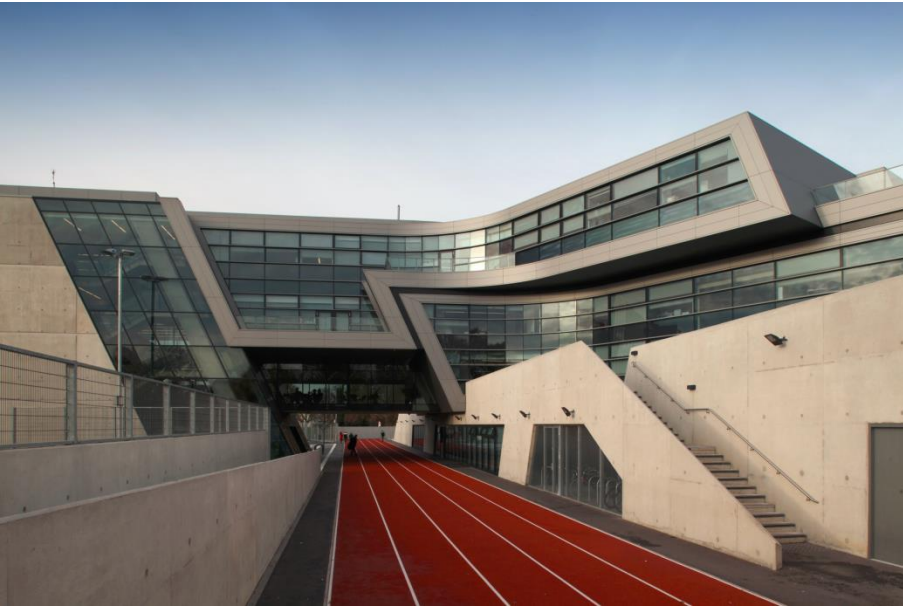
German Federal Chancellery Building



- New concrete construction, completed in 2001
- Required “whiter” appearance and blending of various shades of original concrete
- Concretal Lasur Pigmented Mineral Stain
- Architect: Schultes Frank Architekten
- Owner: German Federal Government



Evelyn Grace Academy, Brixton, London (UK)



- New concrete construction, completed in 2010
- Required a more uniform appearance of exposed concrete
- Concretal Lasur Pigmented Mineral Stain
- Architect: Zaha Hadid Architects
- Owner: ARK Education and DCSF



Lee Kong Chian Natural History Museum, Singapore

- New concrete construction, completed in 2015
- Board formed concrete required deep tint color
- Concretal Lasur Pigmented Mineral Stain
- Architect: Mok Wei Wei
- Owner: National University of Singapore



Future Projects

