



KEIM **Royalan[®]-System**

**Silicate based paints
for extreme climatic conditions**





KEIM Royalan® – a mineral step in the right direction



KEIM mineral paints – The history of an innovative idea

KEIM mineral paints were a Bavarian invention with their roots deep in the Country's heritage. They are synonymous with the technical refinement and high quality, also found in other products that originate from this land of Alps, Kings and Castles.

The scientist A.W. KEIM successfully combined waterglass (potassium silicate) with inorganic color pigments to produce a paint, that both penetrates and chemically reacts with the mineral substrate onto which it is applied. KEIM becomes a part of the surface whereas organic paints merely form

a skin on the surface. These high quality silicate paint systems offer performance, durability, protection and color-fastness that is not knowingly surpassed. Buildings decorated with KEIM in the 19th century are still in pristine condition today.

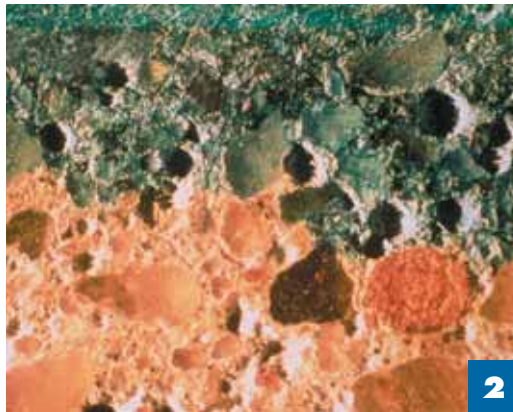
Amongst such examples are the White Eagle Restaurant in Stein am Rhein and the City Hall in Schwyz, both of which are in Switzerland and were decorated in 1891; further facades may be visited in Oslo, Norway (1895) and in Traunstein, Germany (1891).

Today environmental problems have led to increasing demands for environmentally harmless, long lasting and high quality paints. KEIM responds to this by providing a wide range of mineral based products. The successful development of a proven basic concept.

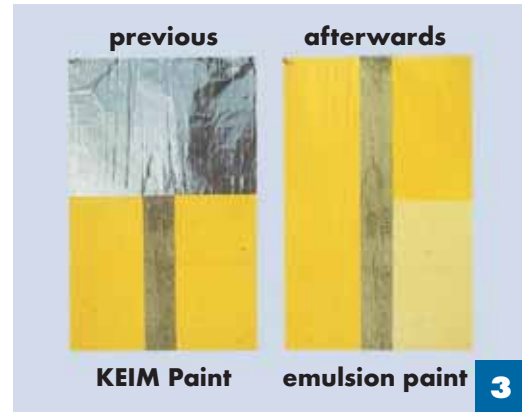




1



2



previous

afterwards



KEIM Paint

emulsion paint

3



4



5



KEIM Paint

emulsion paint

6



7

1 The basis of KEIM mineral paints

Natural ingredients are the fundamentals of the unique quality of KEIM's mineral paints: The binder, liquid potassium silicate whose structural form and hardness is akin to naturally occurring crystals, mineral fillers and inorganic colour pigments.

2 Petrification

The principle of silicate paints is their petrification with the substrate. The result is a solid mineral and insoluble compound of paint and substrate (render, concrete, natural stone etc.) The cross section through the render shows this petrification which is also termed "silicification". To make it visible, KEIM Fixativ (liquid potassium silicate) was pigmented.

3 Excellent lightfastness

Neither harsh climate nor high UV radiation can alter the colour of a KEIM paint. Murals from the 19th century preserved in their original colours show impressive evidence of this as for instance the City Hall in Schwyz in Switzerland. The test method shown opposite underlines this characteristic. After being exposed to high UV radiation - equivalent to one year's natural weathering - there is no evidence of any alteration of the colour shade.

4 Water vapor permeability

The high water vapor permeability of silicate paints due to their crystalline nature ensures that humidity which is present in the masonry can freely pass out from the building structure. Thus water between the paint layer and the substrate which could lead to bursting and cracking is prevented. The substrate remains sound. The breathability of the building structure is maintained.

5 Atmospheric pollution

KEIM mineral paints are resistant to acids and are unaffected by pollution. They also protect the substrate from atmospheric pollution such as sulphuric acid attack.

6 No fungus and algae

The inorganic alkaline composition of KEIM silicate paint reduces fungi and algae growth thus assuring a hygienic and clean paint layer. Also the absence of surface condensation gives a clean, healthy environment.

7 Regulation of temperature

KEIM mineral paints have a microcrystalline structure. Hence light rays and thermal rays are reflected. In hot climatic regions this reflection reduces the thermal stress on the building structure and thereby prevents the substrate from cracking and keeps the temperature inside the building cooler.



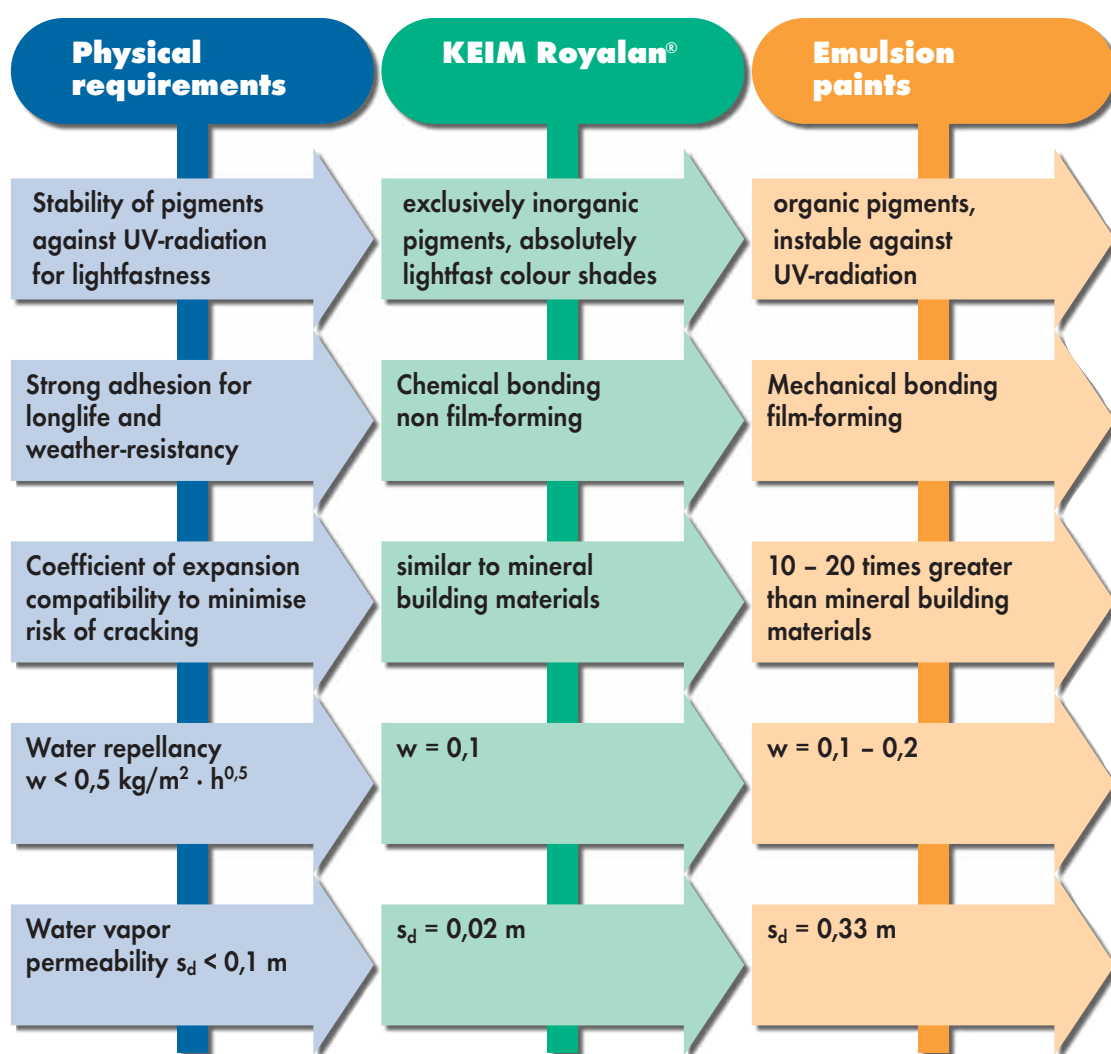
Why KEIM Royalan® Paints?

KEIM Royalan® paints are a generic development of KEIM mineral paints, engineered to meet the challenges of extreme climatic conditions.

KEIM mineral paints are renowned for their proven durability which often extends over many decades. KEIM Royalan® paints are a natural development and are ideally suited to the

harsh conditions of coastal regions, tropical climate, desert regions etc.

Formulated as a one-component system, KEIM Royalan® paints are ready for painting and spraying. A range of more than 200 standard shades offers a wide variety of creative possibilities.



The KEIM Royalan®-System:

Product	Description	Application
KEIM Royalan®	Silicate based paint, to be diluted with KEIM Royalan®-Dilution in accordance with specification	Application by brush, roller or airless-spraying equipment
KEIM Royalan®-Grob	Silicate slurry coat for crack filling up to 0.5 mm and coarse aspect, to be diluted with KEIM Royalan®-Dilution	Application by brush or roller as first coat, followed by one coat of KEIM Royalan®
KEIM Royalan®-Dilution	Silicate based dilution for the products of KEIM Royalan®-system	may also be used as a surface stabilizer in certain cases
KEIM Royalan®-Tinting-Concentrates	Pure color tinting concentrates for tinting all KEIM Royalan® products to the desired shade	can be used also as paint by brush or roller



Supplementary Products:

Product	Description	Application
KEIM Algicide-Plus	Acid free mould and fungal remover	pretreatment
KEIM Lime Remover	For removing sinter layers from new lime renders and cleaning old façades of dirt and grease	pretreatment
KEIM Silan Primer/ KEIM Silan 100	Silane based water repellent primer coat	pretreatment additional water protection, combined with following KEIM Royalan® coats
KEIM Concrete Cleaner	For removing impurities and mould release oil from concrete	pretreatment
KEIM Universal Render (Standard and Fine)	Lime-cement render, fiber reinforced, for localised repairs and/or full rendering	substrate preparation
KEIM Glass Fiber Reinforcing Mesh	Glass fibre mesh, 160 g /m ² , 4 x 4 mm, to be embedded in KEIM Universal render	substrate preparation
KEIM Concretal Fine Finishing Mortar	Fine filling material for small concrete repairs with smooth finish	substrate preparation

Additional supplementary products available on request.



KEIM – world-wide

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KEIMFARBEN

Ges.m.b.H.

Czech Republik

KEIMFARBEN S.R.O.

France

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Italy

KEIMFARBEN

Colori Minerali SRL

Netherlands

KEIMNEDERLAND B.V.

mineralverven

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Scandinavia

KEIM SCANDINAVIA A/S

Spain

KEIM ECOPAINT IBÉRICA S.L.

Switzerland

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United Kingdom

KEIM MINERAL PAINTS LTD.

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KEIM MINERAL COATINGS

of America, Inc.

Agents in

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Canada

Croatia

Cyprus

Finland

Greece

Hungary

Iceland

Latvia

Luxemburg

New Zealand

Norway

Romania

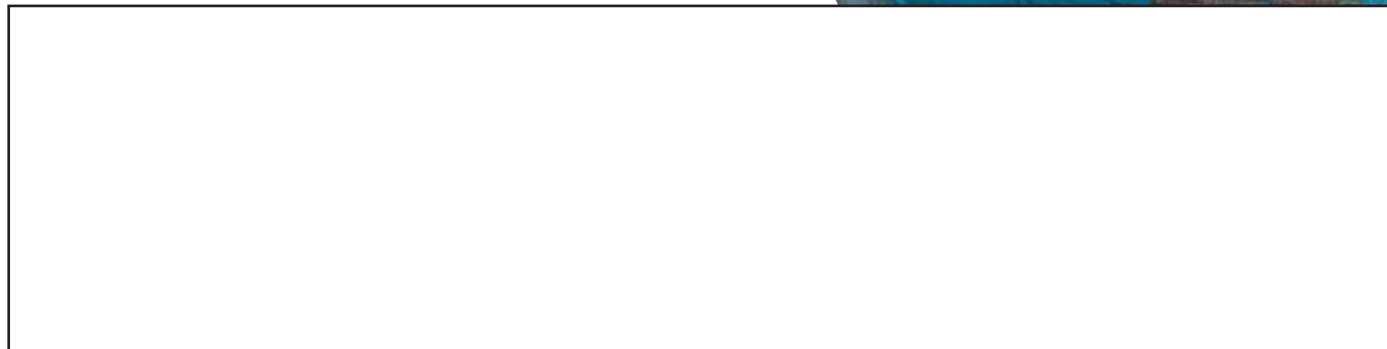
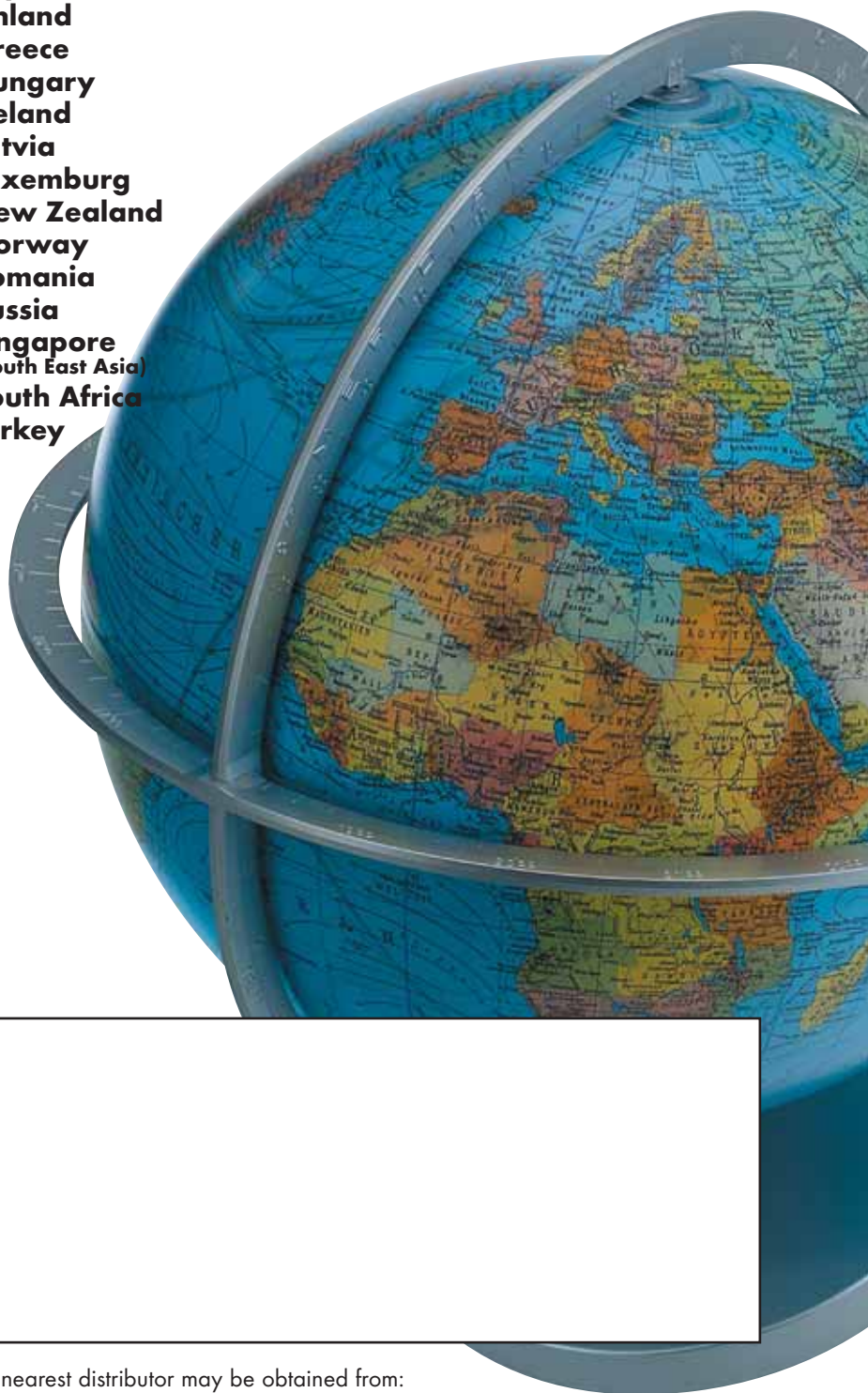
Russia

Singapore

(South East Asia)

South Africa

Turkey



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