Rieder

Matrix 3.0

The world's first CO_2-reduced glassfibre reinforced concrete
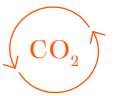
50% LESS
CEMENT

23% CO_2
SAVINGS

CO_2

WITH NATURAL
POZZOLANS

On its way to climate neutrality, Rieder developed Matrix 3.0, a CO_2-reduced material for sustainable facade elements. 50% of the conventional cement was replaced by local natural pozzolana. The rock flour, which has been used in the construction of buildings since ancient times, has excellent properties in terms of structural density and hardening. The cement substitution allows a CO_2 reduction of 30% compared with Matrix 2.2 and a reduction of 23% for the facade elements. From summer 2023, Matrix 3.0 will be used for the products concrete skin, öko skin and formparts. It represents the preliminary stage to cement-free production.
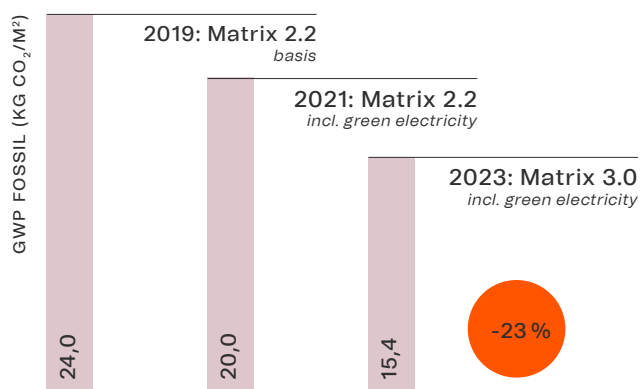

First implementation on the Rieder Campus in Maishofen

Characteristics

MATERIAL

fibreC Matrix 3.0	CO_2-reduced concrete matrix: Replacement of 50% of the cement with natural pozzolans
CO_2 footprint	-30% CO_2 versus Matrix 2.2, GWP fossil: 15.4 kg CO_2 / m^2
Production method	extrusion
Reinforcement	glassfibre textile fabric approved by the building authorities
Health standard	free of crystalline silica (< 1 M.-%)

PRODUCTS

concrete skin (large size)	1200 x 2500, 3100, 3600 x 13 mm
öko skin (concrete slats)	147 x 1800 mm; 70 - 302 x 700 - 2500 x 13 mm
formparts (formed elements)	max. length 3600 x 13 mm

VERSIONS

Colours phase 1	pine green, anthracite
Colours phase 2	chrome, liquid black, terra, oak, walnut, ebony, terracotta, oxide red, burgundy, merlot
Surfaces	ferro, ferro light, matt
Textures	standard, slate (more on request)

PROPERTIES

Surface protection	without surface protection (hydrophobic coating on request)
Dead load/weight per unit	26 - 31,5 kg / m^2
Classification fire behaviour	A1 – non-combustible, A2-s1, d0 – non-combustible (EN 13501-1)
Fastening visible	rivets, screws
Fastening concealed	bonding, undercut anchor

Ecological indicators

GWP FOSSIL (KG CO_2/M^2)

2019: Matrix 2.2
basis

2021: Matrix 2.2
incl. green electricity

2023: Matrix 3.0
incl. green electricity

24,0

20,0

15,4

-23 %

Key figure	Unit	Cradle to Gate A1-A3
GWP Global warming	kg CO_2	15,4
PENRT Non renewable energy	MJ/m^2	168,9
CO_2-savings cement	%	30
CO_2-savings panel	%	23

More information