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Serving the Building, Construction Machinery, Roads & Power Generation Sectors in the Middle East & North Africa - Since 1983
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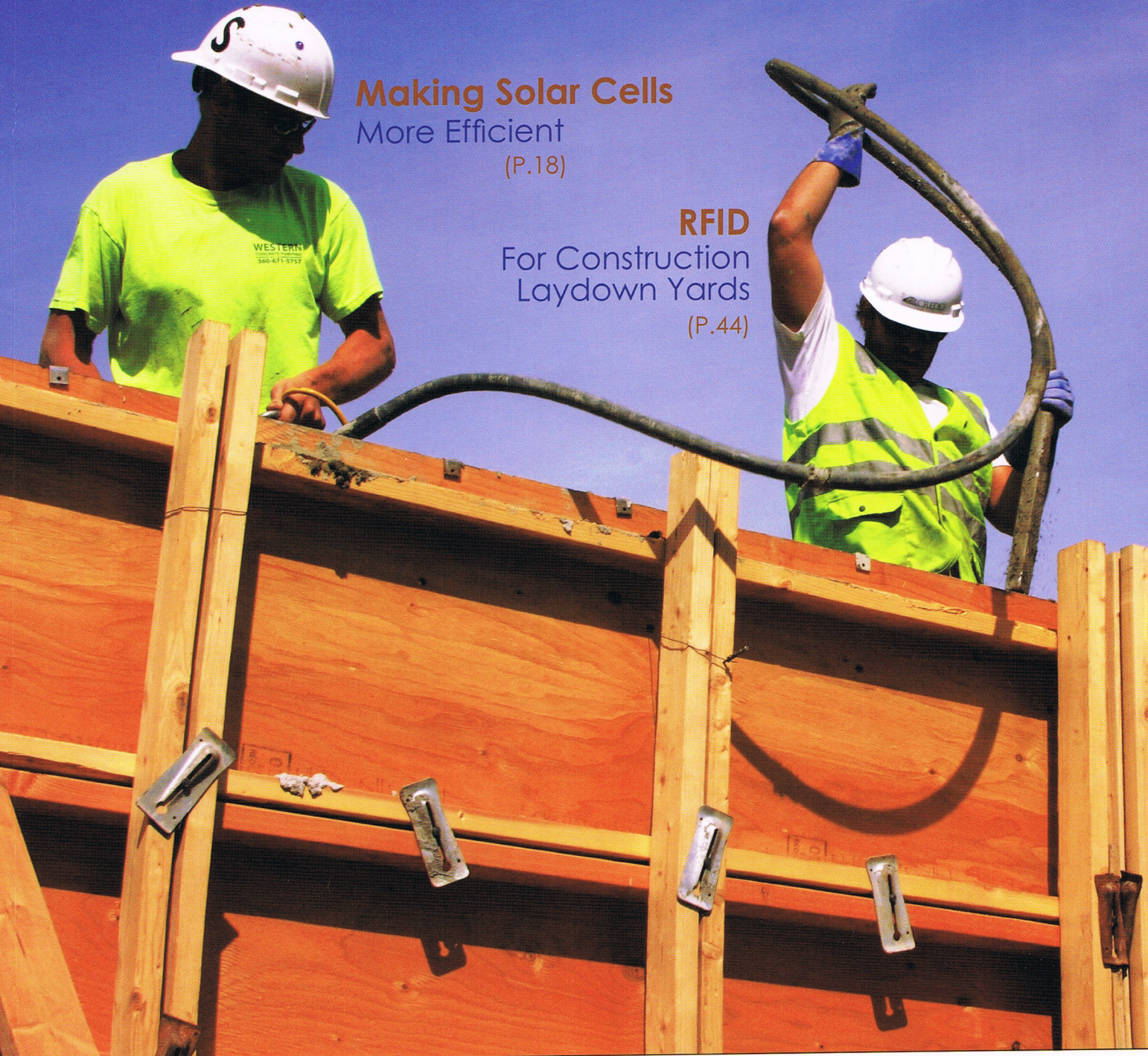
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For Construction
Laydown Yards

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Poraver Lightweight Filler Ensures Superior Wall and Floor Panels

The buildings complex in the Kustermann Park on Rosenheimer Straße, built in the 1990s based on the urbanistic concept of the City of Munich from the 1980s, was structurally upgraded and made fit for the needs of today's users and inhabitants.

During the all-out modernization, the office buildings were equipped with new windows, and the previously separate entrances were combined to form a lounge spanning two floors. At the same time, changes to the units were implemented, and fire-protection was updated to the latest state of the art. The lounge now connects the buildings 116, 116A and 116B and provides access to the casino via a built-in staircase. To this end, the three former entrances were combined, the ceiling of the ground floor partly excised, and the areas extended.

Thanks to the spatial expansion, the lounge dimensions are impressive, so that with regard to interior design a special finesse was implemented. For a wall area of 156 m², the architecture team from Munich has desired a paneling with a curtain-like profile. Apart from optical goals, there were also constructive, chemical, ecological and fire protection requirements to be met. Only one "substance" was able to meet all the demands according to the architects' technical specifications: Stuccolith.

Stuccolith is an artificial stone material developed by **REC Bauelemente GmbH**. During the tendering phase, REC from Berlin could additionally score with extensive reference projects such as the Corbusier House in Berlin and shop fittings from Berlin to Moscow and Shanghai. For years, these places with an excellent interior design of wall and floor plates by REC, manufactured with a low-weight filler from **Dennert Poraver GmbH**, have been proving their worth.

- From the customers' technical specifications: The paneling with its curtain-like profile was to be split into individual plates of 300 cm x 70 cm or 50 cm, with irregular changes in profiling. The elegant surface was defined as having a gently matte structure and an attractive beauty. The mass per unit area was limited to 50 kg/m². The plate material was required to be ecologically sound, open for diffusion, recyclable, persistently white, easy to clean and non-flammable. The plates as well as the edges were to be manufactured to have high impact resistance, with tension-free material and fissure-free absorption of movements of the carrier construction. In case plate repair should yet become necessary, onsite service must likewise be possible.

- Requirements met: Thanks to the mineral low-weight filler Poraver, the mass per unit weight could be limited to approximately 27 mg/m² for a plate thickness of 10 – 45 mm.

In spite of the widely differing material thicknesses, all plates were produced distortion-free. Here a crucial factor is the constant grain-size distribution of the low-weight filler Poraver, as well as the low water absorption.



Photocatalytically active titanium dioxide was also integrated into the formulation. This causes the oxidation of organic media coming into contact with the wall surface. This applies to direct soiling by touch, as well as odors, microparticulates, viruses and bacteria in the ambient air. The effect, initiated by the daylight, continues infinitely. Together with the ability to regulate ambient humidity, the "Stuccolith curtain" improves the atmospheric environment in the lounge holistically and infinitely. And along the way, the strong surface curvature and the matte surface structure affect room acoustics.

- Connection to the casino: For the staircase – the direct connection from the lounge to the casino – a highly robust, non-slippery and stably bright, almost white lining were required.

REC Bauelemente GmbH was able to meet these special material requirements, too. To this end, 65 angular steps with an element length of 250 cm and a material width of 2.50 cm were produced. The steps were cast from Betonlith. Betonlith is a high performance concrete, based on Dyckerhoff Flowstone. Compressive strength exceeds 110 N/mm² and bending tensile strength 15 N/mm².

Here, too, Poraver foamed glass granulate is used. Poraver's processing properties additionally support the manufacturing process and improve the rheological characteristics of the fresh material and the self compaction of the concrete. The extreme weight reduction of the massive angular steps became fully apparent only during transport and installation.

The architects were likewise amazed by Poraver's very positive effect on the optics of the concrete. Thanks to the lightweight filler, the concrete surfaces of the angular steps appear continuously monochromatic. ■