Concrete is globally one of the most common building materials in use today. Its key qualities are the load-bearing capacity, weather resistance and fire protection. However, a lot of energy is needed to produce it. Its effective replacement by new ‘greener’ materials with similar characteristics is currently under research but far in the future. Thus, new concrete construction methods have the potential to reduce the energy consumption considerably in the near future. The focus of our research is, not only to optimize concrete but also to develop a strategy to produce better precast components from this material. The main focus is directed to the optimization of load-bearing exposed exterior walls. The objective is to develop and evaluate construction methods that reflect modern day concerns such as the need for good thermal insulation, the sustainable use of resources, the reduction of wall thicknesses as well as the ability to quickly erect buildings in inner city locations.
with high land value. The research project focuses in particular on insulation thickness and interesting facing concrete surfaces. Openings in the thinner walls have smaller window reveals, so natural lighting is improved as well. The results of the research project will be documented by technical drawings and photos of samples. The samples have been tested for durability, stability, and through exposure to weather.

Stichworte: Precast production; load bearing structure; dispersal; hydration retarder; designengineering; material science; conservation of natural resources; recycling

Dewey Dezimalklassifikation (Liste):
620 Ingenieurwissenschaften

Herausgeber: G. Habert, A. Schlueter (eds.)

Kongress- / Buchtitel: Sustainable Built Environment Conference

Band / Teilband: Expanding Boundaries

Ausgabe: http://vdf.ch/expanding-boundaries.html

Ausrichter der Konferenz: ETH Zürich

Datum der Konferenz: 13-17 June 2016

Verlag / Institution: vdf Hochschulverlag AG an der ETH Zürich

Jahr: 2016

Quartal: 2. Quartal

Jahr / Monat: 2016-06

Monat: Jun

Print-ISBN: 978-3-7281-3774-6

Revied: ja

Sprache: en


WWW: http://vdf.ch/expanding-boundaries.html

Occurences:
- Hochschulbibliographie > 2016 > Fakultäten > Bau Geo Umwelt > Lehrstuhl für Bodenordnung und Landentwicklung (Prof. de Vries)
- Hochschulbibliographie > 2016 > Fakultäten > Bau Geo Umwelt > Lehrstuhl für Werkstoffe und Werkstoffprüfung im Bauwesen (Prof. Gehlen)