Zurich, October 2007: BASF’s Construction Chemicals division is proud to introduce its Smart Dynamic Construction? concept, which allows the ready-mix industry to reach increased energy efficiency, higher concrete durability and better construction process economy in order to reduce CO2 emissions and save time and money. This concept is suitable for upgrading S4 and S5 concretes to a higher performance level, with self-compacting characteristics and the same ease of production as standard concrete. In fact, it creates a new concrete generation which combines the benefits of traditionally vibrated concrete with those of self-compacting concrete, is easy to produce and robust in everyday use.

The Smart Dynamic Construction concept consists of a robust mix design with less than 380 kg of fines, a tailor-made GLENIUM© superplasticizer and the new and unique RheoMATRIX? product, a BASF-exclusive, state-of-the-art Viscosity Modifying Agent (VMA) as the key element of this revolutionary concept. Due to the smart and self-organizing molecules of RheoMATRIX, concrete mix-designs can now be optimized to achieve unmatched and unique performance levels. This innovative concept meets the existing and continuously increasing demand for more fluid concretes and offers the following benefits to the industry:

1. Economical:

Thanks to a unique mechanism of action in concrete, savings of fines (<0.125mm) can be achieved. The stable and highly fluid concrete is close to self-levelling and thus permits installation without subsequent compaction. The placing process is easy enough to be handled by just one operator, which additionally saves up to 40% of work time. This increases placing productivity by up to 5 times.
On top of that it is as easy to produce as standard concrete because the mixes are less sensitive to changes in water demand.

2. Ecological:

The low percentage of fines (e.g. cement), the production of which causes CO2 emissions, improves the ecological efficiency of the concrete. Furthermore, this highly fluid concrete embeds the reinforcement perfectly, giving it optimum protection against external corrosion. This characteristic increases the durability of the concrete and as a result considerably extends the lifespan of buildings thus equipped.

3. Ergonomic:

Thanks to its self-compacting characteristics this concrete does not need to be vibrated, which means no noise and no health hazardous vibrations for workers. Additionally, the new mix design guarantees a type of concrete with low stickiness, thus improving its workability.

RheoMATRIX 100 consists of a mixture of water-soluble polymers which modifies the rheological properties of the concrete mix. Thanks to its tailored mode of action, RheoMATRIX 100 imparts a level of viscosity within the mix allowing the right balance between fluidity, passing ability and resistance to segregation – apparently opposing properties – to be achieved.

The innovative Smart Dynamic Construction concept provides a smart technology to simplify the production and control of a dynamic concrete which adds economical, ecological and ergonomic values to the concrete. It underlines the commitment of the Construction Chemicals division to tailor-made solutions that drive the concrete industry forward. In combination with local technical support and the backing of the world’s leading chemical company, this new concept has the potential to move the market up to the next level of advanced construction practice.