



## Infrastructure Product Spotlight

# Overview

BASF solutions enhance a variety of infrastructure projects, from watertight parking structures to sound dampening for multi-level segmental bridge structures. Our advanced polymer modifier, corrosion inhibitors, accelerators, retarders, silica fume, water reducers, superplasticizers and air entrainers allow for faster installations with longer-lasting results. Our specially formulated admixtures help increase recycled material used to reduce the carbon footprint of concrete, while our accelerating and retarding admixtures enable year-round concrete construction.



### BASF Center for Building Excellence

For more information on these products or to connect about other sustainable building practices, collaborate with us at [construction.basf.us/cbe](https://www.construction.basf.us/cbe).



Styrofan® for latex modified concrete



Wabo® expansion joint systems



MasterGlenium® high-range water-reducing admixture



MasterEmaco® concrete solutions and Wabo® expansion joint systems

# Construction Specifications Institute MasterFormat

BASF products can be found throughout a variety of divisions across the infrastructure sector.

## Division 03: Concrete

**4x4™ Concrete System:** an innovative, patented (U.S. Patent No. 6,858,074) technology called 4x4 Concrete System is a unique method for achieving high-early strength concrete. The name 4x4 Concrete originates from concrete that obtains at least 400 psi flexural strength within four hours of placement, a requirement of the California Department of Transportation. Some applications, however, do not require this level of performance. The flexibility of 4x4 Concrete is such that it can be modified to meet many different specified strength criteria simply by adjusting the mixture proportions and admixture dosages.

**Green Sense® Concrete:** an environmentally preferred, cost-effective concrete with optimized proportions in which supplementary cementitious materials, non-cementitious fillers, or both, are used with special Master Builders Solutions admixtures. Environmental Product Declaration available.

**MasterAir®:** air-entraining admixtures facilitate the development of a stable air void system within concrete that increases the durability of the concrete. Designed for use in low-slump concrete mixtures and will meet the requirements of ASTM C 260, AASHTO M 154 and CRD-C13.

**MasterBrace®:** an innovative repair and strengthening system based on fiber reinforced polymer composites that provide additional stability to structural elements. It is used directly on the parts where the load-bearing capacity needs to be improved and reinforced strength is required. MasterBrace is also part of our brand of specialty structural repair adhesives for segmental bridge rehabilitation and construction.

**MasterEmaco®:** offers comprehensive solutions for concrete that has been damaged or deteriorated by changing weather conditions, chloride ions, contaminants and extreme environments. The MasterEmaco portfolio of primers, cementitious and resinous repair mortars and fairing coats make up a complete system approach that is used to substitute deteriorated concrete and re-establish the original strength, structural integrity and aesthetics.

**MasterLife®:** family of admixtures impart a wide range of properties into concrete that provide resistance to deterioration caused by abrasion, corrosion of steel, alkali silica reaction, sulfate attack and drying shrinkage cracking.

**MasterFinish®:** imparts a wide range of concrete additives and form release agents to achieve an outstanding surface finish. These unique admixtures are formulated to enhance the appearance of pre-cast, pre-stressed and poured-in-place concrete by allowing easy separation from the concrete surface.

**MasterFlow®:** the industry's leading range of grouting solutions from BASF that are specially formulated to deliver high-strength structural stabilization. MasterFlow products provide superior strength and precision alignment even in the most demanding of environments.

**MasterGlenium®:** a product offering from BASF comprises new generation high-range water-reducing admixtures that are specially formulated for applications where slump retention, high-early strengths and durability are required. Concrete mixtures containing these premier products can be optimized for delivery in remote locations and for use in hot and cold climates. Meets ASTM C494/C494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

**MasterProtect®:** a system that includes a range of high-performance water repellents, elastomeric and high build anti-carbonation and chemical-resistant coatings that counter challenging weather conditions, environmental contaminants and corrosive elements. The portfolio also includes a special range of corrosion inhibitors such as galvanic anodes and surface-applied corrosion inhibitors that are formulated to permeate the concrete and control corrosion directly at the steel reinforcement.

**MasterPolyheed®:** a non-chloride, mid-range water-reducing admixture formulated for superior workability and finishing. The most versatile and cost-effective of the plasticizers, it improves concrete performance with excellent early strength and rheology. Meets ASTM C 494/C 494M requirements for Type A, water-reducing, and Type F, high-range water-reducing, admixtures.

**MasterSet®:** a ready-to-use, liquid admixture is used for making more uniform and predictable high-performance concrete. MasterSet admixture retards setting time by controlling the hydration of Portland cement and other cementitious materials while facilitating placing and finishing operations. MasterSet admixture meets ASTM C 494 requirements for Type B and Type D, water-reducing and retarding, admixtures.

**Styrofan®:** incorporating latex in concrete results in an impermeable polymeric film throughout the concrete matrix, improving adhesive bond strength, flexural strength and tensile strength. It also reduces water to cement ratio, chloride ion permeability and rebar corrosion, which all together significantly extends the life of a bridge deck by as much as three times compared to a conventional bridge deck overlay.

## Division 05: Metals

**Sandwich Plate System (SPS):** Intelligent Engineering has developed SPS over the past 20 years. SPS is a composite material comprising two metal plates bonded with polyurethane elastomer core. It is a structural element that is available now as a stronger, faster-to-install, structural replacement for concrete in all types of applications. SPS is accepted and used by engineers and architects worldwide for projects that include floors, cores and walls for high-rise buildings; stadium and arena grandstands and terraces; new construction or reinstatement of highway and pedestrian bridges; ballistic and blast protection for buildings and structures; sound and vibration control of industrial machinery.

## Division 07: Thermal and Moisture Protection

**Elastoshore®:** polyurethane system for the offshore industry. Ensures perfectly stable pipeline connections even under extreme conditions such as the deep sea. Applications such as bend stiffeners, strakes, field joints, bend restrictors and cable protectors offer excellent thermal insulation values, are corrosion proof and have a long service life.

**Wabo® FabroSpan:** an expansion joint system was specifically developed for the Ministry of Transportation of Ontario bridge market. The system incorporates a top removable clamping bar exposed to traffic. The bolting system is accessible on the top surface and is designed to compress the seal-locking lug between steel sections to provide a watertight seal.

**Wabo® X-cel Modular:** is an expansion joint specifically designed to accommodate structural movements in all directions. This system will satisfy thermal, high velocity and multi-directional movement requirements for both seismic and/or multi-directional movement applications.