

Project:
VTB Arena — Central Dynamo Stadium

Location:
Moscow, Leningradsky prospekt

Construction completion date:
2017

Customer:
ZAO Management Company Dynamo

Project designer (construction of the sports arena):
OOO GK-Techstroy

Principal contractor:
CODEST INTERNATIONAL S.R.L.

In-situ concreting sub-contractor:
ZAO Mosfundamentstroy-6

Materials used:

MasterEmaco N900: 120 000 kg
MasterEmaco A 640: 16 000 kg
MasterEmaco S488: 50 000 kg
MasterEmaco N5100: 80 000 kg
MasterEmaco T 1100 TIX (W): 38 000 kg
MasterEmaco T 1200 PG (W): 70 000 kg
MasterEmaco T545: 10 000 kg
MasterFlow 928: 3 000 kg

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MasterEmaco, MasterFlow



Project description

Moscow Dynamo Stadium, built in 1928 and recognized as a historic building in 1987, has a rich history and experience in hosting major sport events. It can rightly be called one of the symbols of Moscow. Over the years of its existence, the Dynamo Stadium was reconstructed and rebuilt many times, and in 2010, the management of the VTB Arena Park project invited a specialized architecture bureau represented by the renowned architect David Manika to elaborate the project concept to improve functionality of the building and ensure workability of its construction so that eventually our country could have its unique sports and entertainment venue.

Tasks and requirements

In addition to the strict requirements for the materials used, one of the key requirements of the Customer and the Principal Contractor was year-round reconstruction of the venue, which is possible only with the use of cutting-edge materials.

When concreting more than 120,000 cubic meters, in addition to meeting tight deadlines, it is also required to observe the high quality of laying concrete and the class A3 requirements for the front surfaces.

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Solutions

To perform the tasks, the contractor SU-10 together with the official BASF dealer, ZAO MSS, developed and implemented a set of solutions using MasterEmaco and MasterFlow products to eliminate defects in reinforced concrete and assemble prefabricated elements.

Assembly of prefabricated stand elements, grouting joints, concreting the supporting structures of metalworks

During construction, grouting of assembly wells and support parts of prefabricated elements became an acute issue. Works had to be performed without stopping in winter and spring. MasterEmaco T 1200 PG (W), MasterEmaco T545 and MasterFlow 928 materials allowed to carry on at temperatures from -20 to $+30$ °C and ensured high strength of the structure.

Achieving class A3 surface quality

According to the technical requirements of the customer, all front surfaces of reinforced concrete shall have class A3 surface quality. The use of MasterEmaco N5100 leveling thixotropic compound and MasterEmaco A 640 special non-shrinking cement made it possible to reach the required surface quality.

Elimination of concreting defects

Thixotropic cement-based MasterEmaco N900 and MasterEmaco S488 compounds as well as MasterEmaco T 1100 TIX winter repair compound helped eliminate defects of reinforced concrete both in summer and in the cold season. The systematic use of those materials allowed to eliminate defects in reinforced concrete ranging from 3 to 100 mm in thickness.



Customer benefits

- A broad portfolio of BASF products for solving complex tasks allowed the contractor to perform all the work on time.
- High performance and stable quality of materials as well as their workability gave the customer confidence in the result.
- Full range of certification documents made it possible to have approval of the customer and all regulatory bodies without delay
- Joint development of technological regulations by the contractor SU-10 and BASF dealer, ZAO MSS, allowed to perform the tasks at a high professional level
- Regular technical support provided on the site by the official BASF dealer, ZAO MSS, gave additional guarantees for observing the right methods of work with MasterEmaco and MasterFlow materials when reconstructing such a critical building in harsh temperature conditions.
- Production of BASF materials in Russia and availability of the full product range in warehouses allowed quick and uninterrupted deliveries of a wide variety of products over 4 years of reconstruction.

Contacts

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