

Project:

Ketch Lake Dam

Location:

Fort Sill, Oklahoma

Owner:

Army Corps of Engineers

Engineer:

Army Corps of Engineers

Contractor:

M.L. Young Construction

Concrete Producer:

Lawton Transit Mix

Products:

*MasterLife® 300D integral
waterproofing admixture*

*MasterSet® DELVO hydration-
controlling admixture*

*MasterPolyheed® 1020 mid-range
water-reducing admixture*

Market Sector:

Ready-mixed concrete

Project Profile

Integral Waterproofing

Ketch Lake Dam



The Background

Ketch Lake dam, built by the landowner Frank Ketch in the 1930's, was built of cobblestone and was a stock pond for cattle. Subsequently, it became a recreational pond. When the dam started giving way in 2010, the Army Corps of Engineers decided to build a new dam directly behind the existing dam. The new dam is 36 feet (11 m) high, 140 feet (43 m) wide and 6 feet (1.8 m) thick at the top and 80 feet (24 m) wide and 20 feet (6 m) thick at the bottom.

Ketch Lake Dam



The Challenge

For this mass concrete application, the specifications required the concrete temperature at the point of delivery to be below 85 °F (29 °C). Additionally, the concrete had to be watertight.

The Solution

Concrete producer Lawton Transit Mix of Lawton, Oklahoma supplied a total of 900 cubic yards (700 cubic meters) of concrete containing MasterLife 300D integral waterproofing admixture from BASF for the dam. Temperature control was critical for the hour-long haul covering 20 miles (32 km) and with over 90 °F (32 °C) ambient temperatures. Lawton Transit Mix used slag cement, Class C fly ash, chilled water, and MasterSet DELVO hydration-controlling admixture from BASF to reduce the heat of hydration of the concrete mixture. The concrete produced met the requirements specified by the Army Corps of Engineers and the concrete was placed successfully in 6 to 8 feet (1.8 to 2.4 m) lifts.



More Information

The Master Builders Solutions brand brings all of BASF's expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry.

The know-how and experience of a global community of BASF construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global BASF technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts, performance flooring solutions.

*Effective January 1, 2014, the names of BASF's Master Builders Solutions brand products have changed:
Rheomac 300D became MasterLife 300D
DELVO Stabilizer became MasterSet DELVO
PolyHeed 1020 became MasterPolyheed 1020

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