BASF PETRONAS Chemical Plant
Protection for wastewater treatment facilities against harsh environments

The background
BASF Petronas Chemical Sdn Bhd commissioned an upgrading project in 2017, to upgrade the infrastructures and carry out improvement works for the utilities in their chemical plant.

A major part of the upgrading works involved the expansion and upgrading to the wastewater treatment plant wherein 7 new concrete wastewater tanks for chemical reaction, sedimentation, aeration, sludge thicker, filtrate sump was constructed and waterproofed with protective coating. Project also includes other development works like installation of new equipment e.g. boilers and condensate treatment units, enhancements to the facility for firefighting, water utilities, overall drainage system and retention pond.

The challenge
Existing wastewater treatment concrete tanks were constructed with a waterproofing and protective coating system that were both time consuming and complicated as the application involved many materials and processes. Upgrading works are required to complete in 4 months’ time, thus a new and efficient coating material is necessary.

With near-sea locality and regular wet weather conditions, substrates are mostly damp which caused bonding and curing issues between protective coating and the concrete.

BASF Petronas Chemical Sdn Bhd upholds a high standard in Environmental Health and Safety requirements where strict occupational safety especially construction-related works carried out in the plant, must comply to all EHS regulations and reduce workplace hazards.
Our solution

**MasterSeal 7000 CR** is specially developed to waterproof and protect concrete structures in aggressive wastewater environments. Its high resistance to abrasion and biogenic sulfuric acid (BSA) corrosion are ideal to withstand the severe conditions that occur in pretreatment and aeration tanks, digesters and sewers.

**MasterEmaco S 5400** was also used to provide a smooth and excellent base layer as the original concrete substrates was not done to required finishing standards.

The customer’s benefit

- Longer-lasting facilities - MasterSeal 7000 CR protects the concrete against aggressive wastewater environments and extends lifecycle of concrete structures
- Downtime is reduced as MasterSeal 7000 CR is fast-curing and can allow contact with water only 24 hours after application at 20°C
- Application is easy – MasterSeal 7000 CR suits the condition of wastewater facilities as it can be applied on damp substrates (due to rainy seasons)
- Application is fast – spray application and fast curing properties of the material significantly speed up the whole process
- Overall project duration is shorter and less manpower and working hours at site

Projects facts at a glance

- Approximately 500 m² of MasterSeal 7000 CR installed for 7 new wastewater tanks (chemical reaction, sedimentation, aeration, sludge thicker, filtrate sump)
- Approximately 400 m² of MasterEmaco S 5400 used for repair and prepare the concrete substrates

Master Builders Solutions from BASF

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.