



CORROSION RESISTANCE PERFORMANCE MMFX 2 (ASTM A1035/A1035M)

MMFX 2 (ASTM A1035) Steel Corrosion Resistance Summary

- Reinforced concrete corrosion resistance performance is enhanced, when utilizing corrosion resistant reinforcement, high performance concrete materials and good construction practices.
- Reinforced concrete corrosion initiates when the chloride concentration at the reinforcing steel surface reaches a critical chloride threshold value (CT).
- Once corrosion is initiated, progressive cracking and spalling of concrete structures follow, based on the corrosion rate (CR) of the reinforcing steel. Deterioration of the structure continues until the structure's service life is ended.
- Comparison of corrosion resistance performance of MMFX 2 (ASTM A1035) to black steel:
 - ▶ CT -- MMFX 2 steel ~ 4-6 times > black bar ~ 1 kg/m³
 - ▶ CR -- MMFX 2 steel ~ 3 times < black bar ~ 6 μA/cm²
 - ▶ Cost effective and maintenance-free mitigation against corrosion
- MMFX 2 bar's corrosion resistance provides:
 - ▶ Extended structure service life beyond 75 years
 - ▶ Reduced material costs compared to stainless steels
 - ▶ Higher tolerable crack width in design

Damage Accumulation Projection for Black Steel vs MMFX Steel Reinforcements

