

Duraspun[®] Marina Piles



Structural Specification for Rocla Spun Concrete Marina Piles

This specification lists the essential requirements for standard Rocla Spun Concrete Piles used as cantilever elements in floating marinas.

1. Standard Rocla Marina Piles are manufactured as spun, prestressed concrete elements to a QA system in accordance with ISO9002.
2. The *minimum* design service life of a Rocla Duraspun[®] pile is 20 years based on the following list of critical durability factors and design assumptions:
 - The spun concrete characteristic compressive strength at 28 days = 65Mpa (min)
 - Exposure classification C applies to the external pile surface and exposure classification B1 to the internal surface
 - The minimum external cover to structural steel reinforcement = 25mm
 - The minimum internal cover to structural steel reinforcement = 15mm
 - The spun concrete has a water/cement ratio of less than 0.35
 - The piles are initially cured so that the average concrete compressive strength is at least 32Mpa before being stripped from the mould
 - A corrosion inhibitor (addmixture) is added to the concrete
 - All applied loads and stresses are assumed to be within the scope of the piles capability
3. The reinforcement typically comprises hard drawn wire to AS1303, prestressing strands to AS1311 and Y-Bar to AS1302.
4. Pile strengths are based on proven Rocla design methods and load tests. The pile strength designation refers to the minimum Ultimate Bending Moment strength provided near the toe end of the pile. Refer to the specific BM diagram for each specific pile. These strengths are intended to suit the typical cantilever applications of floating marinas.

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