PART CC20  
  
CONCRETE

CONCRETE PROPERTIES

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **COMPONENT** | **STRENGTH GRADE** | **CEMENT TYPE** | **ASSESSMENT  TYPE** | **EXPOSURE CLASSIFICATION\*** | **OTHER  REQUIREMENTS** |
| *Piles* | *S40* | *SR* | *Project* | *U* | *High durability concrete (refer Clause CC20.9)* |
| *Base Slab* | *S40* | *SR* | *Project* | *C* | *High durability concrete (refer Clause CC20.9)* |
| *Foundation Preparation* | *N10* | *GP or GB* | *Production* | *B1* |  |
| *Wing Walls/Head Walls* | *S40* | *GP or GB* | *Project* | *B1* |  |
| *Precast Units* | *S40* | *GP or GB* | *Project* | *B1* |  |
| *Deck Slab* | *S40* | *GP or GB* | *Project* | *B1* |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

\* (Refer AS 2758.1, Appendix A "Exposure Classification").

Note to specifiers:

Information in this table should be provided by the designer. It should include all structural concrete elements; however, check that it does not conflict with notes on the drawings.

High durability concrete is a mandatory requirement for C, U and B2 exposure classifications and may under special circumstances extend to B1 classifications where soil and water conditions may be poor.

Include any other special requirements for reinforcing, formwork, precast units, curing etc

ANTI – GRAFFITI TREATMENT

*Treatments approved to APAS – 1441/1 must be adopted where a permanent clear finish is required and approved to APAS – 1441/2 where a colour is required.*

*Anti-graffiti treatments must comply with the following:*

|  |  |  |
| --- | --- | --- |
| *Component* | *Treatment* | *Minimum Service Life for Coating* |
| *Bridge parapets* | *A permanent polyurethane anti-graffiti coating as approved to APAS-1441/1 must be applied to all exposed surfaces prior to their installation.* | *15 years.* |
| *Bridge Piers* | *A permanent polyurethane anti-graffiti coating as approved to APAS-1441/1 must be applied to all exposed surfaces prior to their installation.* | *15 years* |
| *Reinforced Soil Structures* | *A permanent polyurethane anti-graffiti coating as approved to APAS – 1441/1 must be applied to vertical exposed surfaces.* | *15 years* |
| *Precast Concrete Walls* | *A permanent polyurethane anti-graffiti coating as approved to APAS – 1441/1 must be applied to vertical exposed surfaces.* | *15 years.* |
| *Specify Others*  *E.g.*  *Platform, elevator and stair components* |  |  |

The Contractor must provide details of the proposed anti-graffiti treatments for each component for approval. Provision of documentation shall constitute a **HOLD POINT**.

CONCRETE CONSTRUCTION JOINTS

*These Requirements take precedence over relevant Master Specification clauses when conflict arises.*

*When construction joints are permitted by the drawings:*

|  |  |  |
| --- | --- | --- |
| **JOINT** | **TREATMENT** | **COMMENT** |
| *Pile caps, abutment sills, spread footings* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Walls, retaining walls* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Blade pier shafts* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Headstocks* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Precast beam/in-situ concrete deck, in-situ diaphragm* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Precast barrier/ in-situ stitch* | *Surface roughened, aggregate need not be exposed* |  |
| *Precast deck units/in-situ topping slab* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Deck joints* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Precast segmental balanced cantilever construction; cantilever closure stitch* | *No special treatment required* | *Provided shear keys present and continuity post-tensioning keeps joint under compression* |
| *Precast segmental span-by-span construction; segment joints (wet and dry)* | *No special treatment required* | *Provided shear keys present and post-tensioning keeps joint under compression* |
| *In-situ segmental incrementally launched girders* | *As per Part CC25 Clause 3.5* | *Potential zones of high shear transfer* |
| *Other project specific* |  |  |
|  |  |  |
|  |  |  |

Note to specifiers:

Information in this table should be provided by the designer. It should include all structural concrete elements; however, check that it does not conflict with notes on the drawings.

Remove items that are not applicable, add additional project specific items as necessary.

HOLD POINTS

The following is a summary of Hold Points referenced in this Part:

|  |  |  |
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| **CLAUSE REF.** | **HOLD POINT** | **RESPONSE TIME** |
| 2.3 | Proposed anti-graffiti treatments documentation for approval |  |

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