SECTION 10

FLOOR AND FLOOR FINISHES

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10.0 FLOOR AND FLOOR FINISHES

10.1 General

Floors
Determine the extent of any special floor loads such as library, stacks, compactus and special uses in schematic design phase. Structural capacity shall be subject to the Principal Consultant's structural engineer certification but generally floors will be a minimum of 4 kPa per m^2 for most uses, 5 KPa per m^2 for basements (if provided), and 6 kPa per m^2 to 10 kPa per m^2 for compactus areas. Consideration shall be given to allowance for an area for future compactus storage of approximately 10% of the Net usable Floor Area (NFA) on each floor, preferably in two separate locations, but not less than 15 m^2 in a single location. A schematic plan showing these zones shall be provided and included in maintenance manuals.

Design
Floor slabs shall be designed for the most economical construction and flexibility of use with due consideration to long-term deflections and the need to provide for penetrations, both initially and during the course of the building's life. Refer Structural Design Section. All floors are to be finished within a maximum tolerance of +/- 3mm in a 3000mm straight edge.

Selection
The selection of floor finishes is very important. It has direct impact on safety (students, staff and visitors) and has potential legal implications if not correctly addressed (e.g. Workers Compensation, Tort Law etc.) A "duty of care" exists where professionals are involved in the selection of products (e.g. architects, interior designers) and responsibility must be undertaken.
Designers shall incorporate the principles & requirements established in AS/NZ Standards and WH&S legislation, to reduce the risk of persons slipping on pedestrian surfaces.

Install tiles using flexible thin-bed adhesives suited to the applications.
Particular care should be given in the selection of tiles to ensure slip resistance and serviceability.
Porous unglazed tiles are not to be used in any new installation.

All tiles shall comply with the following criteria:
Surface qualities ISO 10545-2 Length and width +/- 0.6%
Warpage of edges + or - 0.5%
Thickness + or - 0.5%
Wedging + or - 0.6%
Flatness + or - 0.5%
Water Absorption ISO 10545-3 0.5%
Modulus of Rupture ISO 10545-4 27 N/mm2
Deep Abrasion ISO 10545-6 205 mm2
Coefficient of Linear or Thermal Expansion ISO 10545-8 90 K-1
Resistance to Thermal Shock ISO 10545-9 No visible defects
Moisture Expansion ISO 10545-10 0.05%
Crazing Resistance ISO 10545-11 No visible defects
Chemical Resistance ISO 10545-13 No visible defects
Resistance to Stains ISO 10545-14 No visible defects
Slip Resistance in accordance with AS/NZS 4586. Refer to 'An Introductory Guide to Slip Resistance of Pedestrian Surface Materials' HB 197:1999 published by CSIRO & Standards Australia

Floor tiles shall be anti-slip with dark grout (charcoal or similar) and shall finish level with adjacent finishes. Careful consideration must be given to the colour selection of floor tiles to ensure an acceptable visual appearance of the tiles after cleaning as a result of the anti-slip finish.
Appropriate caulked expansion joints shall be provided as required including the junction of tiles floors with walls. All tile layouts shall be approved by the Superintendent.

10.4 Nosings, Junctions, Sealants & Trims

Nosings to edges of tiers and steps in aisles in Lecture Theatres are an illuminated type and are specified in Electrical Services section

Provide a 50mm x 6mm flat clear anodised edge trim to the junction of the platform and riser in tiered floor Lecture Theatres. The trim is to be screw fixed to the riser at the top edge before the floor coverings are installed.
Junctions of dissimilar floor finishes shall be achieved using brass angles or strips set into the slab. Separation strips are not required between vinyl finishes and carpet tile.

Sealants
Sealants shall be selected to be appropriate for their application and shall be colour matched to the finished surface.

Joints
Joints of dissimilar floor finishes shall be achieved by utilisation of a ramping using floor levelling compounds to achieve a constant finished floor surface height. Use of brass angles or strips set into the slab and fixed with epoxy cement may be considered where practicable however a constant floor height is to be achieved.

10.5 Door Mats

Door mats shall be provided at normal access doors at ground level to the building on the inside of the door. Mats shall be formed by inserting into general carpet at doorways by overlaying and double cutting door mat carpet adhesive fixed to floor.

Door mat carpet shall be Autex "Indoor/Outdoor" "Widetrack", "Images" Autex “Decord” sheet carpet or Interface Flor “Entry Level” Barrier Matting 500 x 500mm adhesive fixed as recommended