

EQ RESISTANT COLUMN CONNECTION

CONNECTION CONCEPT

Joint between column and foundation has to be filled with **high-strength no-shrink grout**.

The grout must be steel fiber-reinforced, with compressive strength at least 30% higher than the highest grade of concrete used in connected elements.

When grout is hardened the joint behaves as cast-in-situ reinforced concrete section.

Recommended mortar:
PLANITOP HPC FLOOR

Pair of wedge-locking washers

secure bolted joints with tension instead of friction. Bigger wedge than the thread pitch angle prevents the bolt from loosening during vibration and dynamic loads.

Heat shrink tube

acts as debonding material to prevent friction between concrete and steel leaving the anchor bolt free to deform. Tube is applied on the threaded part of embedded in the foundation anchor bolt.

Precast concrete column

HPKM®
Column Shoes

Epoxy resin

is injected inside shoe hole to compensate the tolerance gap around anchor bolt.

Recommended epoxy resin:
MAPEFIX EP 385/585

Bottom plate of Column Shoe

Foundation

Joint

HPM-EQ /L Anchor Bolts

Use of **B500C steel** for anchor bolts enables to avoid reduction factor on ductility of the connection as required by Code.

Rough surface should be provided at the bottom of column and at the top of the foundation in order to activate interlocking mechanism for shear force transfer. Required roughness can be achieved with so called shear key recess plates.

The use of a plate with a minimum of 4 keys per direction is mandatory in order to achieve at least 3mm roughness at about 40mm spacing or an intended surface.

