

# 11. Development of the Mechanical Anchorage using EG Anchor Plate —Structural Performance of T-Shaped and Exterior Beam-Column Joint—

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In the reinforced concrete construction building, for anchorage of beam main reinforcement, bent-up type has been generally used, while for anchorage of top floor column main reinforcement, 180° hook type has been used in beam-column joint. As the bar arrangement in beam-column joint tends to become complicated, however, the mechanical anchorage has become popular for the anchorage of the main reinforcement. The last fiscal year is followed, mechanical anchorage method (EG anchor plate method) was used, the part frame experiment was carried out in order to understand the structural performance for the case it is applied to the anchorage of column and beam main reinforcement of beam-column joint. As a result, the following facts were confirmed, when the EG anchor plate method was applied to beam-column joint: ①For T-shaped beam-column joint, in column bending type bodies, sufficient ductility capacity can be ensured when secured enough shear margin and reinforced the sub hoop and the capital reinforcing bar. ②For exterior beam-column joint, EG anchor plate method is the same performance as bent-up type.

**Key words:** mechanical anchorage, circular anchor plate, reinforced concrete, t-shaped beam-column joint, exterior beam-column joint