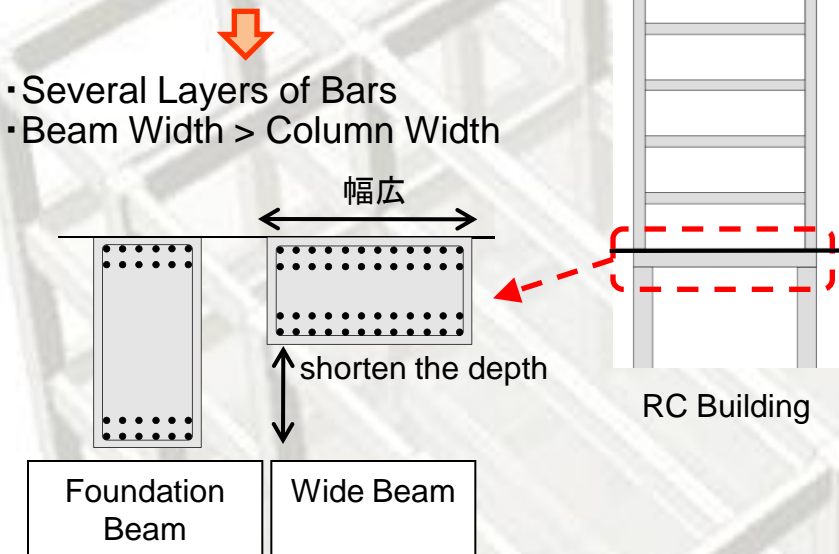


RC Wide Beam – Column - Pile Joint with Mechanically Anchored Longitudinal Bars

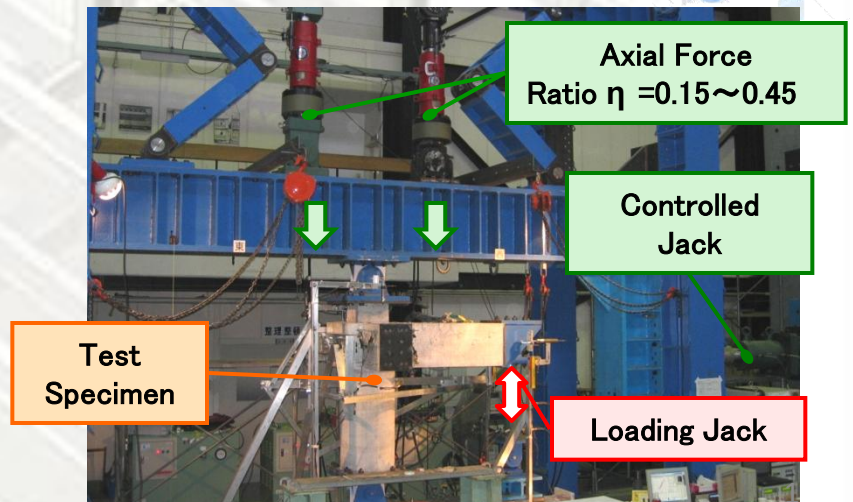


Background

- Decrease the soil cutting volume
- Shorten the foundation work term
- Smaller the Beam depth
- More reinforcement



Loading Setup

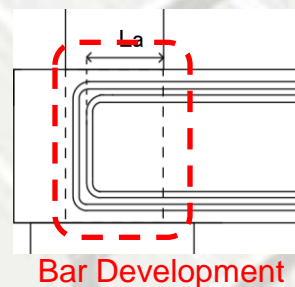


Test Result

- ◇ Same hysteresis loop between U-D and PN-D
- ◇ Final fracture mode is different as shown in picture, shear failure of beam and joint failure
- ◇ Beam damage level of PN-E is higher than the others due to the eccentricity of pile

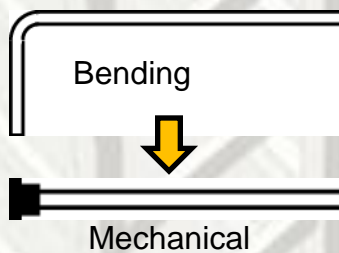
Purpose

- Typical Bending Detail...
- ◇ Shorten the development of the Beam longitudinal bars
- ◇ Complicated joint



⇒ Mechanical Anchored Bars

Structural performance with wide beam



Test Outline

- ◇ 1/3 scale of RC building foundation joint
- ◇ 3 test specimens, typical U-shape development, Mechanical anchored, Eccentric pile

Test Specimen	U-D	PN-D	PN-E
Ld	Japanese standard	$\geq (3/4)D, 12d_b$	$\geq (3/4)D, 12d_b$
Pile	Center	Center	Eccentric
Detail			

