New Concept of CFT column for Building Structures

ACT Column

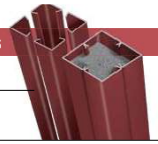
Concrete Filled steel Tube

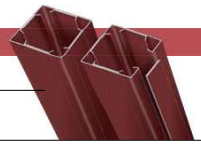
Technology

Steel-Concrete composite columns using hot-rolled steel plate and concrete.
Roll-formed and welded steel tube with high strength concrete creates better performance than any other types of vertical components.

ACT Column

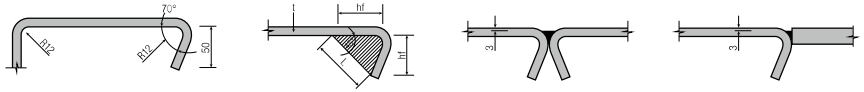
Characteristics/Merits





System	ACT Ⅰ	ACT Ⅱ
Feature	300~600mm	Expansion from ACT Ⅰ for higher loading
Manufacturing	Square shape by welding on 4 roll-formed profiles	Square or rectangular shape by welding on 4 roll-formed profiles and thick plates between the profiles
Application	Column members connected with steel or composite beams	

- Internally projecting ribs funtioning to studs improve composite strength between concrete and steel.
- Column buckling can be more resisted by the ribs.
- W/T ratio ↓ , Confinement effect ↑
- Back plates for welding are unnecessary
- Typical flare welding is used instead of inert gas arc welding



ACT Column Benefits

Cost saving
- 30~50% lower than RH column
- 15~25% lower than CFT column
- 15~20% lower than Precast

CO2 reduction
15% of CO2 reduction comparing with SRC

Increased use of space
ACT column can reduce size by up to 47% compared to SRC column

Earthquake-resistance
Better composite effect in term of curved ribs without stud

Short construction duration
Faster than conventional column due to formless concrete construction

Off-site manufacturing
Factory built system without sacrificing quality and procurement schedule

Structural improvement
Excellent applicability to large space industrial buildings under heavy loadings

Efficiency
Highly efficient system for top-down construction methods

Applications


Office building


Factory


Logistics hi-rise building


Logistics warehouse


Logistics office building


MQ Logistics