

Effective for Long-span under heavy loadings

HyFo Beam

Hybrid Forming-Beam



Technology

Steel-Concrete composite element for beam and girder using hot-rolled steel plate and concrete. Two Z and one C shaped roll-formed steel profile with concrete create effective performance for long-span horizontal structural components.

RC Beam



- Pros Lowcost
- Cons Poor Constructability

Rollled-H Beam



- Pros Good Buildability
- Cons High cost/Low Serviceability

PC Beam



- Pros Good Serviceability
- Cons High cost

HyFo Beam



- Pros Good Serviceability / Low cost/Labor efficient

Characteristics/Merits

- Seismic connection performance : applicable for IMF (Intermediate Moment Frame)
- HyFo beam saves 30~60% of fire safety expense comparing to Rolled-H beam
- Save up to 11% of total construction cost comparing to those using Precast concrete beams

Specifications

Lower rebar : D25, D32, D41 / Thickness t1, t2 : 6~10mm

| Nominal Size (mm) | Standard Sectional Dimension (mm) | | | | | Sectional Area of Plate (mm ²) | Sectional Area of Rebar (mm ²) | All Sectional Area (mm ²) | Unit Weight (kg/m) | |
|-------------------|-----------------------------------|-----|----------------|----------------|---------|--------------------------------------------|--------------------------------------------|---------------------------------------|--------------------|-------|
| | H | B | t ₁ | t ₂ | D | A _{ps} | A _{rb} | A _{all} | W | |
| 300x270 | 300 | 270 | 6 | 6 | 25 | 7371.3 | 506.7 | 7878.0 | 63.7 | |
| 350x270 | 350 | 270 | 6 | 6 | 25 | 7971.3 | 506.7 | 8478.0 | 68.6 | |
| 400x270 | 400 | 270 | 6 | 6 | 25 | 8571.3 | 506.7 | 9078.0 | 73.4 | |
| 450x270 | 450 | 270 | 6 | 6 | 25 | 9171.3 | 506.7 | 9678.0 | 78.3 | |
| 450x270 | 450 | 27 | 8 | 8 | 25 | 12087.6 | 506.7 | 12594.3 | 101.9 | |
| | 500 | 270 | 6 | 6 | 25 | 9771.3 | 506.7 | 10278.0 | 83.1 | |
| 500x270 | 500 | 270 | 8 | 8 | 25 | 12887.6 | 506.7 | 13394.3 | 108.3 | |
| | 600 | 270 | 6 | 6 | 25 | 10971.3 | 506.7 | 11478.0 | 92.8 | |
| 600x270 | 600 | 270 | 6 | 8 | 25 | 12039.5 | 506.7 | 12546.2 | 101.5 | |
| | 600 | 270 | 7 | 7 | 25 | 12738.3 | 506.7 | 13245.0 | 107.1 | |
| | 600 | 270 | 7 | 9 | 25 | 13789.9 | 506.7 | 14295.6 | 115.6 | |
| | 600 | 270 | 8 | 8 | 25 | 14487.6 | 506.7 | 14994.3 | 121.2 | |
| | 600 | 270 | 8 | 10 | 25 | 15520.6 | 506.7 | 16027.3 | 129.6 | |
| | 600 | 270 | 9 | 9 | 25 | 16219.4 | 506.7 | 16726.1 | 135.2 | |
| | 600 | 270 | 10 | 10 | 25 | 17933.6 | 506.7 | 18440.3 | 149.1 | |
| | 700x270 | 700 | 270 | 6 | 6 | 25 | 12171.3 | 506.7 | 12678.0 | 102.5 |
| | | 700 | 270 | 6 | 8 | 25 | 13239.5 | 506.7 | 13746.2 | 111.1 |
| | | 700 | 270 | 7 | 7 | 25 | 14138.3 | 506.7 | 14645.0 | 118.5 |
| 700 | | 270 | 7 | 9 | 25 | 15188.9 | 506.7 | 15695.6 | 126.9 | |
| 700 | | 270 | 8 | 8 | 25 | 16087.6 | 506.7 | 16594.3 | 134.2 | |
| 700 | | 270 | 8 | 10 | 25 | 17120.6 | 506.7 | 17627.3 | 142.6 | |
| 700 | | 270 | 9 | 9 | 25 | 18019.4 | 506.7 | 18526.1 | 149.8 | |
| 700 | | 270 | 10 | 10 | 25 | 19933.6 | 506.7 | 20440.3 | 165.3 | |
| 800x270 | | 800 | 270 | 7 | 7 | 25 | 15538.3 | 506.7 | 16045.0 | 129.8 |
| | | 800 | 270 | 7 | 9 | 25 | 16588.9 | 506.7 | 17095.6 | 138.2 |
| | 800 | 270 | 8 | 8 | 25 | 17687.6 | 506.7 | 18194.3 | 147.1 | |
| | 800 | 270 | 8 | 10 | 25 | 18720.6 | 506.7 | 19227.3 | 155.4 | |
| | 800 | 270 | 9 | 9 | 25 | 19819.4 | 506.7 | 20326.1 | 164.4 | |
| | 800 | 270 | 10 | 8 | 25 | 20900.6 | 506.7 | 21407.3 | 173.0 | |
| 800 | 270 | 10 | 10 | 25 | 21933.6 | 506.7 | 22440.3 | 181.5 | | |

Applications

