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ConX Chassis System

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CONX CHASSIS SYSTEM

THE NEED

Often referred to as a full-scale “Erector Set”, the ConX System applies technology to the building industry resulting in dramatic efficiencies. The systems approach is made possible by employing automated and efficient processes, from design through fabrication, shipping, and field assembly. By utilizing a library of robust connectors, beam and column assemblies can be configured to achieve aesthetic design freedom and to meet even the most demanding structural criteria. The ConX System enables a premium structure – in a fraction of the time – without a premium cost. In addition to the structure itself, the inherent precision of the ConX Chassis™ enables the simple integration of other modular or factory-built building components, similar to the precision of automobile manufacturing.

FIGURE 1 1: CONX COLUMN; 2: CONX BEAM; 3: CONX COLLAR

THE TECHNOLOGY

The ConX System simplifies the structural frame of a building to a “chassis” comprised of a finite set of systemized components: (1) HSS tube or built-up box columns, (2) wide flange beams, and (3) two patented interlocking joints, one which forms a bi-axial moment connection (collar), and the other an innovative gravity connection. Both connections are easily assembled by lowering and locking beams into place on-site and

require no field “cut-and-fit” or welding associated with conventional steel systems. ConXtech’s field assembly is rapid and efficient. The simplicity of the system connector ensures a speedy and precise fit-up in the field which ensures a safe, high quality installation. On-site material handling and storage is minimized by delivering building components in a sequential flow for an efficient assembly. By design, ConX factory welded connections eliminate the need for field welding. Structural components easily “lower and lock” together ensuring an immediately stable space frame. Unlike field-welded assemblies, the ConX System bolt-up can take place from the safety of finished decks and will not impede the workflow of the structure schedule. ConXtech's systems deliver an innovative yet commercially viable alternative to traditional building methods. ConXL is perfectly suited to meet the challenging project requirements needed for the commercial, office, hospital, military, school, parking, data center, and industrial market. The ConXR system is perfectly suited to needs for the urban infill and multi-family residential markets. In addition, it is ideally suited for high-density affordable housing projects where proven systems, time to market and overall hard costs are hypercritical for project viability.

ConXL™ Structural Steel Space Frame (for projects with 18'-65' bay spacing)

The ConXL System is ideal to meet the demanding requirements for commercial, office building, hospitals, blast resistance structures, schools, parking garages, data centers and industrial applications for the oil and gas industries.

ConXR™ Structural Steel Space Frame (for projects with bay spacing up to 20')

The ConXR System is best suited for mid to high-rise residential structures, including mixed-use, hotel, student and senior housing, as well as industrial pipe rack applications. The ConXR System provides optimum value due to its infinitely configurable, brace free, no field welding characteristics.

The demand to build high quality sustainable buildings is evident. ConX System components are precision manufactured in a highly automated manufacturing facility where technology minimizes waste and carbon emissions while enhancing quality and cost efficiencies. Electronic CAD/CAM files from Building Information Models (BIM) feed data to CNC cut and drill lines thereby increasing precision and reducing the risk of human error. Robotic weld cells, CNC machine centers, innovative fixturing, and process streamline the flow of materials into a near Just-In-Time (JIT) delivery system. The result is superior quality and unprecedented efficiencies in the use of materials, time, and energy.

THE BENEFITS

- Lower “total installed cost” vs. conventional structural alternatives.
- Robust structural frame: inherent seismic, blast and progressive collapse resistance at no added cost.
- Faster to erect: 2x – 5x efficiency vs. conventional structural alternatives.
- Safer: ConX “lower and locking™” connections reduce risk.
- No field welding accelerates trade access and workflow; and reduces fire hazard during construction.
- No brace frames or shear walls enhances architectural freedom.

- Efficient structure: redundant distribution of moment frames can bring foundation savings and reduced carbon footprint.
- Superior dimensional tolerance in frame: brings high quality, efficient installations for the finish trades.
- Tthe ultimate in sustainability: durable materials; efficiently designed & delivered; can be designed for disassembly and re-use.
- Green: use of ConX may contribute up to six LEED credits.

STATUS

ConXtech has designed and delivered nearly eight million square feet of ConX System structure over the last five years. The system is manufactured in an AISC Fabricated Certified Plant. The design system and plant have undergone extensive peer reviews, full scale testing, and the scrutiny of some of the world's most respected seismic and structural engineers.

POINTS OF CONTACT

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REFERENCES

1. ConXtech Inc. had provided the information used in this factsheet upon the request of ECT.
2. www.conxtech.com

REVIEWERS

Peer reviewed as an emerging construction technology

DISCLAIMER

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