The WSSL GIGA-SPAN structures are designed, engineered, and manufactured in our CWB certified plant. The open web truss galvanized steel frames are assembled to satisfy the applicable building code. As with all WSSL tents and structures, the component parts are designed for ease of transportation, assembly, and erection. WSSL has temporary or semi-permanent GIGA-SPAN structures to fit your needs, 30' through 160' width and bay length from 10' – 20'.

### Span Widths

<table>
<thead>
<tr>
<th>Series</th>
<th>Width Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series 18</td>
<td>30' - 70'</td>
</tr>
<tr>
<td>Series 27</td>
<td>50' - 90'</td>
</tr>
<tr>
<td>Series 36</td>
<td>60' - 100'</td>
</tr>
<tr>
<td>Series 43</td>
<td>70' - 160'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bay Widths</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10' - 20'</td>
</tr>
</tbody>
</table>
WHY CHOOSE A FABRIC CLAD STRUCTURE

Clear span interior
Naturally lighter for daytime work
Re-locatable
Quick installation
Lower project costs
Low maintenance
Since 1970 the excitement was INTENSE

1971
Hurritent
(Telephone & construction)

1973
Armadillo
(Pulp and paper industry)

1976
C-Series Dome Tent
(Montreal Olympics)

1977
Arabesque Tents
(Stagecovers & theatres)

1980
Hypup Tent
(For German telepost)

1983
Centipede Tent

1984
Marquee and Arabesque
(Tents for hajj in Saudi Arabia)

1985
Hex Marquee Tents
(For Niagara falls festival)

1988
WSSL ClearMod Series
Structures & special teepee (150’ High)

1991
WSSL ClearMod Series
(For 50,000sqft. factory on 10 acres)

1992
WSSL ClearMod Series
(Insulated for dinosaur museum)

1994
WSSL Peak Pole Tent

1998
Hex Marquee Tents
(For Yukon quest dogsled races)

2000
WSSL ClearMod Series
(For Korea supermarket)

2002
WSSL Giga - Span
(Series 43, 160’x330’)

2004
WSSL Giga - Span
(Series 43, 160’x285’)

2006
Arabesque S-56 Array
(Monterrey, Mexico)

2008
WSSL Giga - Span
(Series 37, 127’x400’)

2009
WSSL Tent - C - Can
(Over surplus sea containers)

2010
WSSL Tent - X - Span
(For events needing clearspan)

2011
WSSL ClearMod Series
(130’x225’)

2012
WSSL Giga - Span
(Series 43, 160’x330’ & 80’x40’)

2014
Arabesque S-80 Array
(Santa Monica, California)

2016
Car Lot Canopy
(Alberta Canada)

The excitement is still in TENTS
Warner Shelter Systems Limited

Founded in 1970 by Kurt Warner, P.Eng., Warner Shelter Systems Limited, WSSL, has been designing, engineering, manufacturing, and installing award-winning quality tents and fabric-clad portable and semi-permanent structures for over 40 years. WSSL structures are constructed of simple but strong and durable frames with smooth, graceful fire retardant covers. WSSL Structures range in size from 10 to 5,000 sqm. (100 to 50,000 sqft.)

WSSL has become the supplier of choice for the rental, oil, and gas industries

Giga-Span Structures

WSSL GIGA-Span Structures are built with simple-to-erect interchangeable parts, reducing complexity of inventory, transportation, and setup in the rental, construction, and other industries requiring semi-permanent structures.

Giga-Span (choosing which one)

The process of choosing a structure usually begins with developing an understanding of what is required; of where, how, when, for what, and by whom the structure is to be used. From this knowledge one can determine:
- The size and overall dimensions,
- The environmental issues: wind, rain, snow, temperature
- The internal loads to be supported
- The foundation and ground conditions
- The egress sizes and locations
- The translucency or opacity of the cladding
- The need for insulation and/or heating
- The ventilation whether natural or forced
- The portability of the structure, assembly, disassembly
- The transportation and other issues

With the above site and use specific information, WSSL will determine if an existing structure design will satisfy or if a special design is needed.
Engineering of GIGA-SPAN

Of course, design must involve engineering at various stages, for macro and micro analyses. WSSL has commissioned AP Dynamics Inc. to conduct structural analyses of WSSL GIGA-SPAN structures. Each analysis is performed using Finite-Element Analysis (FEA) method, and the loading conditions used are those specified by the 2010 Edition of the National Building Code of Canada, latest international building code, or other code applicable.

Site Specific:
The loading conditions on the structure are site specific. Analyses are performed using STAAD Pro v8i, an industry standard structural finite analysis program with Code checking capabilities. The structure for your project must meet or exceed all applicable municipal, provincial, or national codes.
WSSL uses High-Strength Structural Steel

Main Framing material:
Structural Steel tubing is supplied to WSSL by Allied Tubing & Conduit which has one of the most experienced teams of mechanical and application’s engineers, technicians, and metallurgists assembled in the industry. With an in-line galvanizing process, the high-strength 50ksi tubing supplied directly to WSSL is manufactured to ASTM A500. Using Allied Tube patented Gatorshield galvanized tubing gives WSSL Giga-span framing superior strength and protection.

Using Allied Tube patented Gatorshield galvanized tubing gives WSSL Giga-span framing superior strength and protection.
Fabric cladding material

Fabric used by WSSL for the roof panels, gable panels, and other fabric parts must be strong and light. All WSSL covers are fire retardant with self-extinguishing properties. Intertape Polymer Group has supplied WSSL with structure fabric for more than 10 years. Nova-shield Polyethylene Membrane Structure Fabrics with patented weave produces high strength-to-weight ratios. WSSL uses FRU88X-6, 6mil, FRU88X-6, 4 mil, and RU88X-6 fabrics.

Intertape Polymer Group Patented Weave

NovaShield’s exclusive double-stacked scrim is a unique weave design offering strength and durability that our competitors don’t have. NovaShield is woven from high-density polyethylene slit tapes and coated on both sides with low density polyethylene. In the FRU 4 mil and 6 mil, UV and FR Additives are in both coating and tapes.

FRU88X-6
4 MIL FABRIC SPECIFICATIONS*

| Weave: | Woven flame retardant HDPE scrim using FR/UV tapes |
| Coating: | 4 mil average each side (95 g/m²/side) |
| Color: | White, green, sandstone, blue or gray |
| PERFORMANCE | |
| Strip Tensile | Warp: 260 lbs. | Weft: 240 lbs. | ASTM D5035 |
| Tongue Tear | Warp: 120 lbs. | Weft: 120 lbs. | ASTM D2261 |
| Trap Tear | 90 lbs. | 85 lbs. | ASTM D4533 |

RU88X-6
4 MIL FABRIC SPECIFICATIONS*

| Weave: | Woven HDPE scrim using UV tapes |
| Coating: | 4 mil average each side (95 g/m²/side) |
| Color: | White, green, sandstone, blue, red or clear |
| PERFORMANCE | |
| Strip Tensile | Warp: 260 lbs. | Weft: 240 lbs. | ASTM D5035 |
| Tongue Tear | Warp: 120 lbs. | Weft: 120 lbs. | ASTM D2261 |
| Trap Tear | 90 lbs. | 85 lbs. | ASTM D4533 |

FRU88X-6
6 MIL FABRIC SPECIFICATIONS*

| Weave: | Woven flame retardant HDPE scrim using FR/UV tapes |
| Coating: | 6 mil average each side (142 g/m²/side) |
| Color: | White, green, sandstone, blue or gray |
| PERFORMANCE | |
| Strip Tensile | Warp: 260 lbs. | Weft: 240 lbs. | ASTM D5035 |
| Tongue Tear | Warp: 100 lbs. | Weft: 100 lbs. | ASTM D2261 |
| Trap Tear | 80 lbs. | 80 lbs. | ASTM D4533 |

Exclusive Co-Extrusion Coating for Strength, Durability & Opacity

Nova-Shield II™ is the only polyethylene fabric on the market to offer co-extruded coating technology (giving you multiple coating layers) that produces rich colors, enhanced UV protection and true opacity.

With our Co-Extrusion Technology, Intertape is able to offer blackout fabrics in many color combinations.
Warner Shelter Systems Limited is CSA A660-10 certified to manufacture steel building systems.

WSSL Fabrication

Framing fabrication:
All cutting, bending forming, metal working, welding, finishing and partial assembly proceed in our CWB Certified fabrication shop. WSSL is certified to CSA Standard W47.1 in Division 2. Bases and miscellaneous frame parts are hot dip galvanized or electroplated depending upon the requirement.

Post-fabrication of the pre-galvanized tube trussing, the weld areas are cleaned, zinc rich coating is applied meeting performance required of ASTM A-780/A780-9 and followed by a clear topcoat to seal the surface.

Fabric Cladding panel fabrication
All cutting, heat-sealing, sewing, and other processes used in fabricating the fabric clad panels are completed on our unique sheet metal floor. Sample welding seams are tested daily with adjustments made for optimum welding of the fabric seams.

Insulation and liners:
Bubble foil R5 fiberglass Batt R20 insulation packages available.

Hardware:
All fasteners, bolts, nuts, turnbuckles, cables, and other hardware are galvanized or otherwise finished to prevent corrosion.

Doors & Accessories:
Vehicle doors, personnel doors, vents and other accessories can be added to the building.

Personnel Doors:

<table>
<thead>
<tr>
<th>Door double 72” X 80”</th>
<th>11660</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door single 36” X 80”</td>
<td>9448</td>
</tr>
<tr>
<td>Door steel 3’ X 7’ w/frame assembly</td>
<td>13106</td>
</tr>
</tbody>
</table>

Vehicle Doors:

| Vehicle sliding door with mandoor available in 14’X12’, 14’X14’, 14’X16’, & 20’X20’ |

Vehicle double 72” X 80” 8270

Door Canopies:

| Door Canopy 10’W X 10’L W/mandoor Assembly (14922) |
| Door canopy 10’W X 5’L (14965) |

Ventilation:

| End vents | Roof vent | Fan 24” 5400cfm exhaust | End wall power vent |
Testing / Quality Control
All new designs and processes are scrutinized and tested for dimensional tolerances, strength, and frame/cladding assembly issues. WSSL conducts full scale assembly tests on our two acre prototype area. The importance of Quality control is continually emphasized and all are encouraged to suggest improvements.

Shipping and Logistics
WSSL works through a network of cost-effective and dependable freight companies to ensure timely delivery, whether to Panama, Germany, Taiwan, or Fort McMurray.
ROOF & WALLS:
Shaped for cover stability.
Mildew and rot resistant.
Fire retardant: satisfies ULC-S109 for National Building code, and NFPA 701 large scale, California Fire Marshal.
Weave 16 x 16 PPL fire retardant HDPE.
Coating thickness 4.0 mil each side.
Single skin or insulated.

FRAMING:
Structural steel tube truss, 55000 psi yield.
Galvanized finish.
High zinc coating welded areas.
Aluminum track for attaching fabric roof panels.
Interchangeable parts.

HARDWARE:
All galvanized or otherwise rust resistant.
(Grade 8 bolts, cables, and turnbuckles)

ASSEMBLY:
Bases fixed to anchorage.
Frame arches assembled and lifted up.
Arches secured with fixed length spreaders.
Roof panels installed after frame is complete.

VEHICLE DOORS:
Overhead or sliding person doors, steel or fabric clad.

ANCHORAGE/FOUNDATION:
Depending on site & customer requirement.
The architectural membrane, structural steel, and/or aluminum framing materials used in WSSL Structures have been selected for their proven strength, durability, and longevity. To show sincere confidence in our products, WSSL is pleased to issue the following guarantee:

**STRUCTURES GUARANTEE**

All structural steel and aluminum used in WSSL structure components are of the highest structural quality. The frame components are designed and engineered for their intended use.

This guarantee applies to the original purchaser of the structure.

MEMBRANE FABRIC COMPONENTS

All WSSL Structure fabrics are fire retardant: our suppliers warrantee that their fabrics satisfy and meet the requirements of CPAI 84, ULCS-109, NFPA-701, and California State Fire Marshal. The fabrics contain inhibitors to resist mildew and ultraviolet degradation. Other additives help with stand extreme climatic variations.

WSSL, on a pro-rata basis at current price, will replace fabric components which have deteriorated from any of the aforementioned factors within **SEVEN YEARS** or regular from date of delivery of the structure(s). Due diligence during setup, takedown, and cleaning will extend the anticipated fabric life.

STRUCTURAL STEEL AND ALUMINUM COMPONENTS

The frame components are designed and engineered for their intended use. This guarantee applies to the original purchaser of the structure.

Kurt E. Warner, President

The Head Office for Warner Shelter Systems Limited is located in Calgary, Alberta, Canada - home of the Calgary Stampede and host city for the 1988 Winter Olympics. Here, in the foothills of the Rocky Mountains, some of the most dramatic weather conditions exist, making it an ideal location for research and development of our fabric-clad structures.

Founded in 1970 by Kurt Warner, P.Eng., WSSL has designed and manufactured quality award winning tents and fabric clad portable and semi-permanent structures for over 45 years. Warner Shelter Systems Structures are constructed of simple but durable frames with smooth, graceful fire retardant covers.

The Warner structures range from 100 to 100,000 sq. ft.