

# SPORT CENTERS



Estadio Único Madre de Ciudades  
Santiago del Estero, Argentina



## ARCHITECTURAL SOLUTIONS

*Through design and innovation we help build cities of the future, offering our clients personalized solutions and unique designs.*

We are a Company with more than 30 years of experience designing and implementing Tensile Structures.

We offer applications of:



**Facades**



**Covers**



**Thermoacoustic  
Solutions**



**Mobile  
Systems**

***Why work with Tensile  
Structures?***



# Versatility in design

- *Differentiated architectural proposal.*
- *It allows the generation of large covered spaces.*
- *Adaptability of design and materials according to application.*
- *Custom designs and advertising prints.*
- *Anti-seismic structure.*

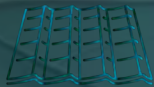


Estadio Tierra de Campeones Ramón Estay  
Iquique, Chile



# Natural light optimization

- *Visible light through the material; thanks to its translucency it is possible to save energy in daylight hours.*
- *It favors visual comfort in spectators, reduces the effect of glare.*



Velódromo de La Videna  
Lima, Perú



# *lighting effects*

- *Programmable LED lighting effects that enhance architecture and composition.*
- *Excellent screen for projections.*





# Sound control

- *The material has a better behavior against the reverberation of sound, compared to the metallic material that propagates the sound wave.*





# Maintenance and cleaning

- *The components of the coating of our materials allow to recover the initial performance and appearance.*
- *It is self-cleaning in rainy weather.*



# Optimization in time and cost

- *Construction process that reduces time in manufacturing, transportation and installation.*
- *Optimization of material and resources in logistics and execution of work.*
- *Projected useful life of more than 20 years.*
- *Cover material with 15 year guarantee.*
- *Internationally certified materials.*





# *Our experience supports us*

**+ 275**

*Tensile Structure  
projects*

**+ 67**

*Sport Centers*

**+ 15**

*Stadiums in  
Latin america*



***SPORTIVE CENTERS***

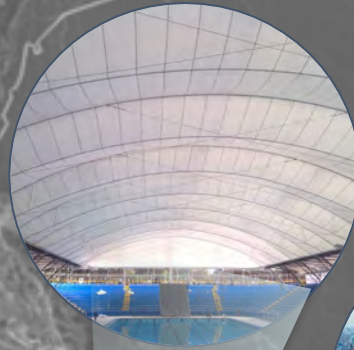


# SPORTIVE CENTERS

## PERU



Complejo Chicago,  
Trujillo



Campo de Marte, Lima



Estadio Nacional del Perú,  
Lima



Piscina IPD,  
Villa María del Triunfo



Coliseo Andahuaylas  
Cusco



Velódromo de la Videna,  
Lima



Estadio Hugo Sotil, Ica



Coliseo de Camaná,  
Arequipa



# SPORTIVE CENTERS

## CHILE

Chile



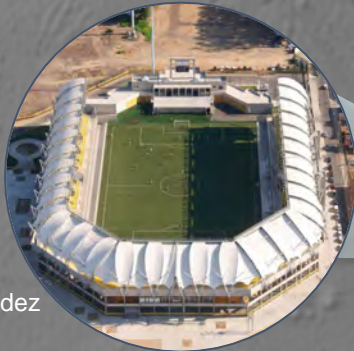
Estadio Municipal Tierra de Campeones Ramón Estay, Iquique



Estadio La Portada, La Serena



Estadio Monumental Colo Colo, Santiago de Chile



Estadio Lucio Fariña Fernández Quillota



Estadio Bicentenario La Florida



Estadio Germán Becker, Temuco



Estadio Nelson Oyarzún Arenas Chillán



# SPORTIVE CENTERS

## COLOMBIA



Cancha Deportiva y  
Camerinos - Eafit



Patinodromo Mundialista



Estadio de Softball



Coliseo de Hockey

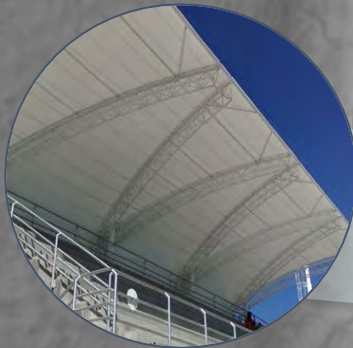


# SPORTIVE CENTERS

## ARGENTINA



Estadio Madre de Ciudades,  
Único de Santiago del Estero

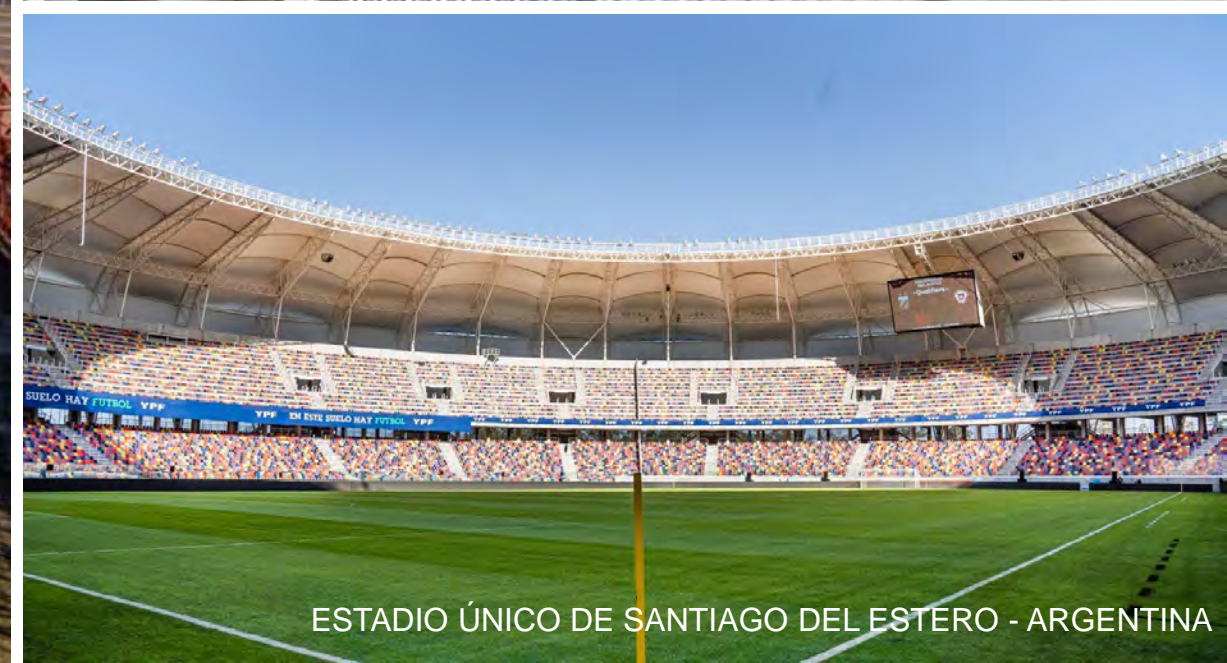


Estadio Malvinas Argentinas



Estadio Cubierto de Mendoza





ESTADIO ÚNICO DE SANTIAGO DEL ESTERO - ARGENTINA





















ESTADIO CUBIERTO DE MENDOZA - ARGENTINA









COLISEO DE HOCKEY, CALI - COLOMBIA  
Área cubierta: 5836.00 m<sup>2</sup>



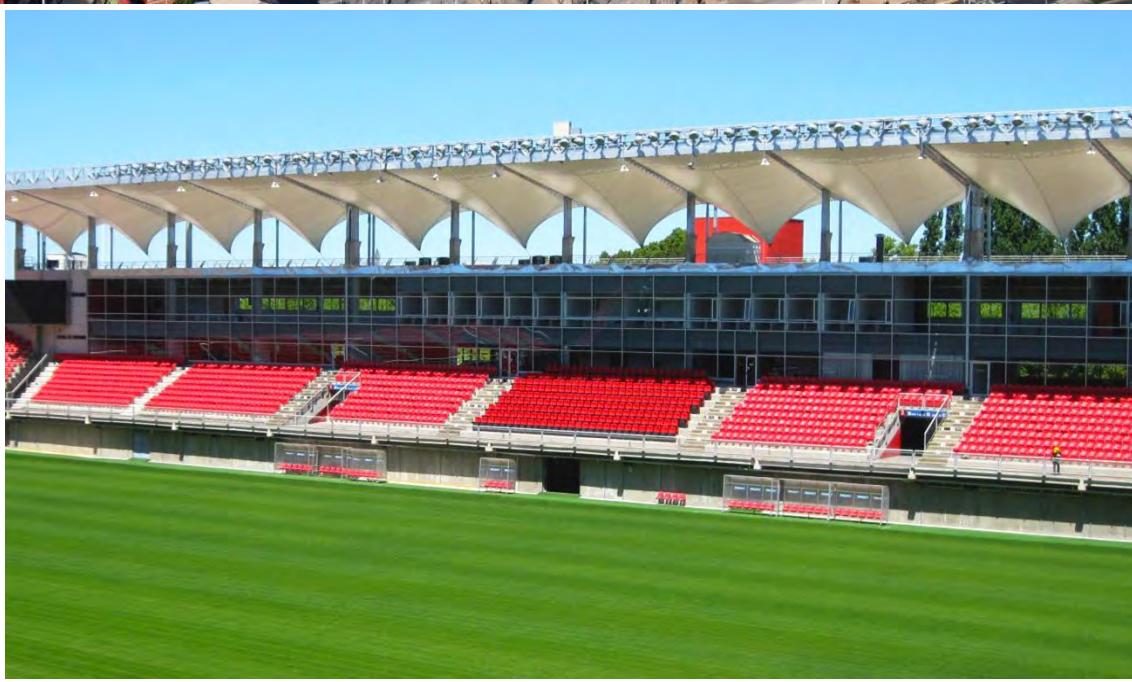


ESTADIO DE SOFTBALL - CALI, COLOMBIA





ESTADIO BICENTENARIO LA FLORIDA - CHILE



ESTADIO CHILLÁN, CHILE







ESTADIO MUNICIPAL GERMÁN BECKER DE TEMUCO - CHILE  
Área cubierta: 18 500,00 m<sup>2</sup>

ESTADIO MUNICIPAL GERMÁN BECKER DE TEMUCO - CHILE





ESTADIO MUNICIPAL GERMÁN BECKER DE TEMUCO - CHILE  
Área cubierta: 18 500.00 m<sup>2</sup>

ESTADIO MUNICIPAL GERMÁN BECKER DE TEMUCO - CHILE



















# ***Modular Stadiums***



# Modular Stadiums

*The prefabricated system, produced in the workshop, allows quick assembly on site, and offers adaptable alternatives to all types of sports space.*

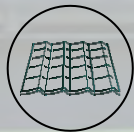
Providing aesthetics and practicality through technology and innovation, a quality product is obtained, superior to traditional construction.

Deadlines are reduced by more than 50% compared to a traditional work.

The comprehensive system offers



Structure



Cover



Facade



Modular supportive  
feature

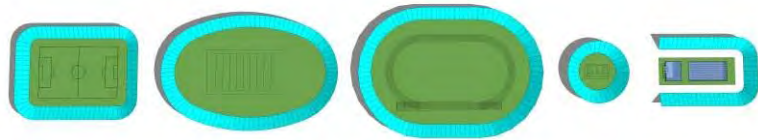




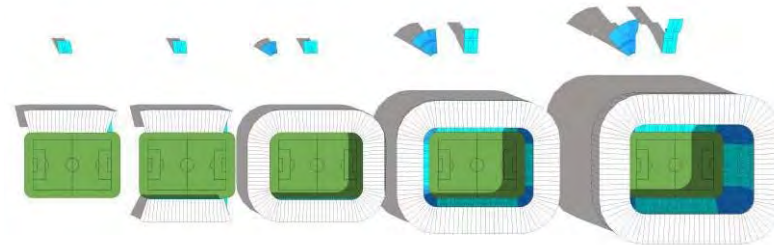
# MORPHOLOGY



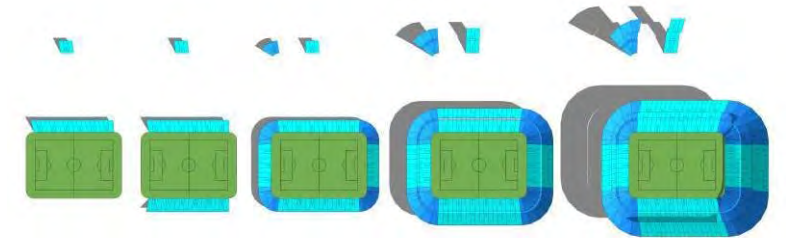
*The modular system allows with only two modules (straight and curved) it is configured with various possibilities of grandstands*



The straight module is part of the longitudinal and cross sections, and the curved module is located in the corners.



The modular system allows work in phases. It can start with the roofing of the most important grandstands and continue the process over time.



Designed by JAVIER GARCIA ALDA Architect© in collaboration with CIDELSA Tensoestructuras

The system adapts to the different configurations and disciplines to develop such as: soccer, athletics, among others.



# CAPACITY

The viability of modular expansion allows the prospect of continuing to grow over time, meeting the expectations of clubs and sports centers.



**Stadium Capacity**

UP TO 10,000 SEATS

10 000 SEATS

30 000 SEATS

45 000 SEATS

**Land Size**

3 Ha.

3.5 Ha.

4 Ha.

5 Ha.



# COMPREHENSIVE DESIGN



## Architecture

Comprehensive design of spaces and sports field. Alternative finishes and coverages according to the requirements of each client.



## Structure

The modular structure is calculated according to the regulations and the requirements of each project. It can be metallic structure or mixed system.

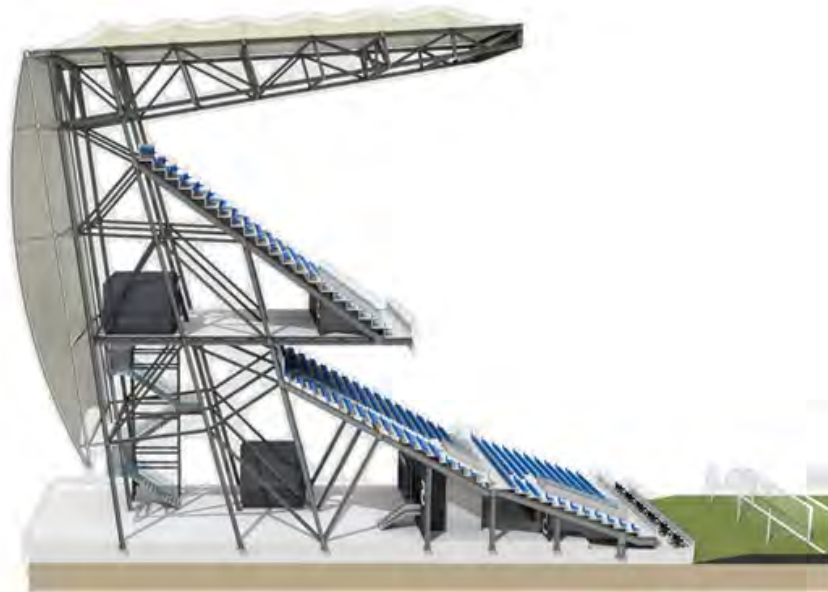


## Facilities

Design of the specialties of electrical installations and communications, plumbing, air conditioning, fire system, among others.

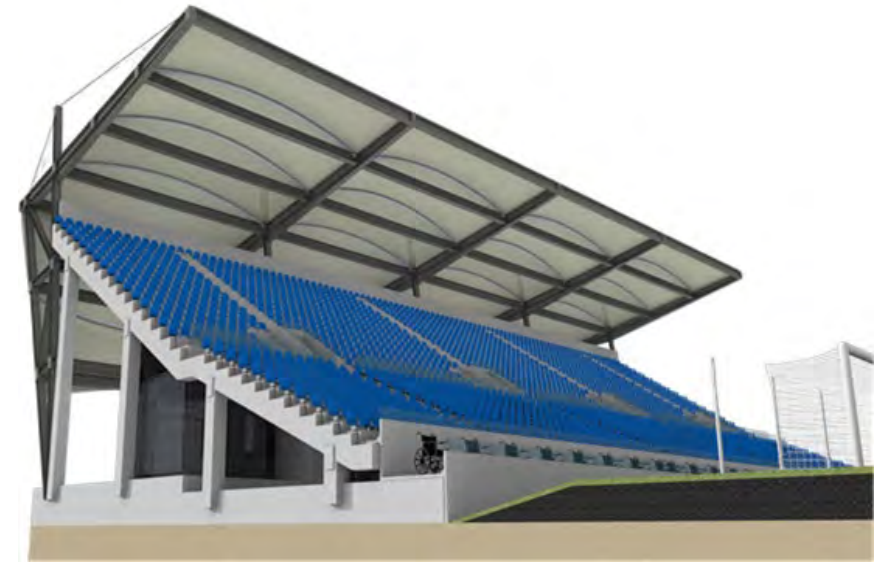


# STRUCTURE



## Metallic structure

Steel tubes or open profiles (IPE), may be galvanized or coated with epoxy paint. It is made up of beams from the stands, roofs and facades.



## Mixed System

Composed of a prefabricated concrete system for the structure of the grandstands and complemented with the metal structure for the roof and facade



# STRUCTURE – COVER - FACADE

Composed of a prefabricated concrete system for the structure of the grandstands and complemented with the metal structure for the roof and facade.

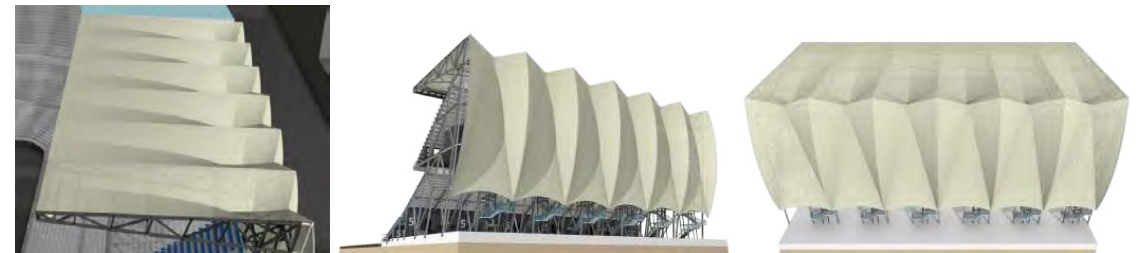
The viability of modular expansion allows the prospect of continuing to grow over time, meeting the expectations of clubs and sports centers.

## Arches Module



Cover: PVC / PVDF Facade: Membrane/ Mesh

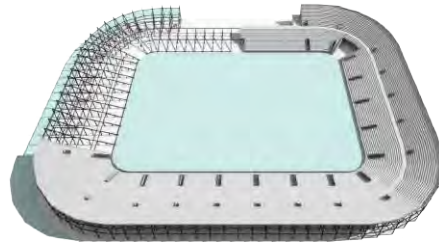
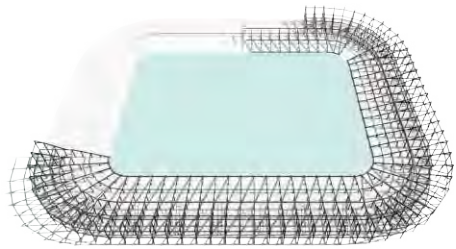
## Arc - Valley Module



Cover: PVC / PVDF Facade: Membrane/ Mesh



# CONSTRUCTIVE PROCESS



Diseñado por JAVIER GARCIA ALDA Architect® en colaboración con CIDELSA tensoestructuras



Civil works: earthworks,  
foundations.



General  
structure



Prefabricated  
grandstands



General  
facilities



Coverage  
and Facade

The construction process favors autonomous construction in phases.  
The production in the workshop meets the international quality standards and regulations of each region.



# BENEFITS - MODULAR STRUCTURE



MODULAR



Custom design and finish



Time optimization



Optimization in logistics and assembly



Highly anti-seismic



Eco-friendly



Versatile



# PROJECTS



Nuevo Estadio de Fútbol en Al Russafa, Bagdad



Polideportivo Villa, el Salvador de los Juegos Panamericanos 2019



Nuevo Estadio de Fútbol en Al Russafa, Bagdad



Rehabilitación del Estadio olimpico "11th June" en Trípoli



Nuevo Estadio de fútbol en Misurata



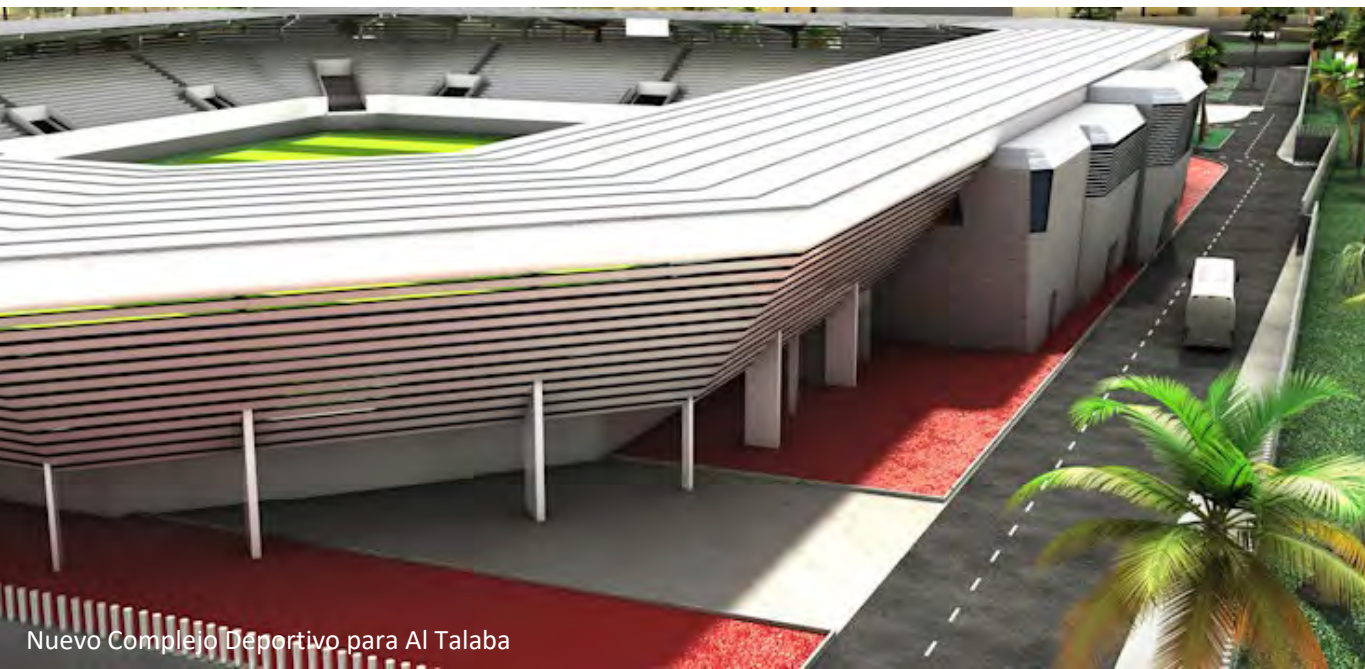
# PRELIMINARY PROJECTS



Pabellón Polideportivo en Benghazi



Nuevo Estadio de Fútbol Salah El Din Irak

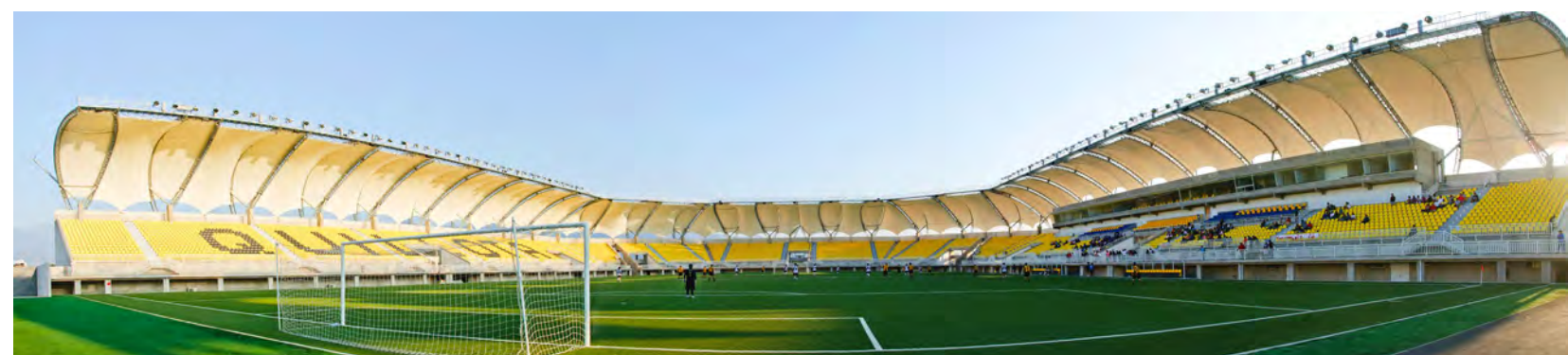


Nuevo Complejo Deportivo para Al Talaba



Nuevo Estadio de Fútbol en Tripoli





**+ 275**  
*tensile structure  
projects*

**+ 67**  
*Sportive  
Centers*

**+ 15**  
*Stadiums in  
Latinamerica*

**FIFA**  
*Homologated  
Stadiums*



# *Our Processes*



# WHY IS CIDELSA THE BEST CHOICE?

## OUR PROCESSES



COMMERCIAL TECHNICAL SUPPORT.



DESIGN AND STRUCTURAL CALCULATION.



PLANNING.



EXECUTION: MANUFACTURING AND  
ASSEMBLY.

*We have a production plant with the  
capacity to make 26,000m<sup>2</sup> per month.*

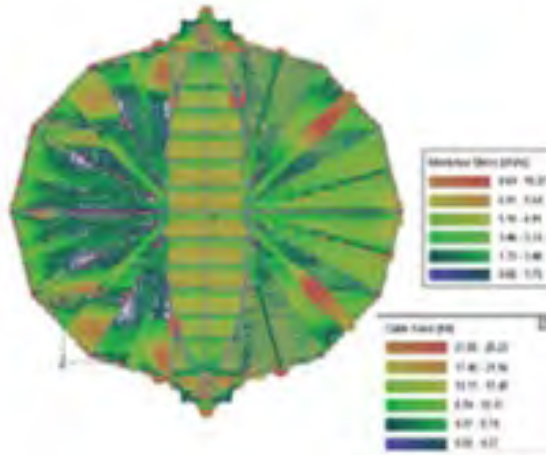


# DESIGN: TECHNOLOGY AND SPECIALIZED SOFTWARE



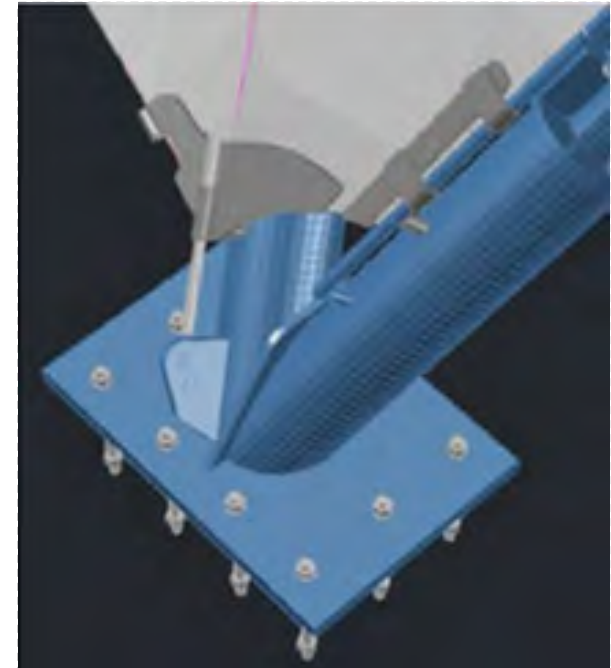
## Membrane design

*Calculation of efforts and development of membranes.*



## Structural Analysis and Design

**RSTAB8**  
**SAP2000**

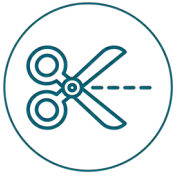


## Detail Engineering

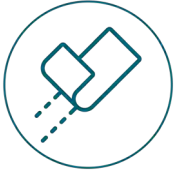
**Tekla**  
Structures  
**SOLIDWORKS**



# MANUFACTURING AND ASSEMBLY



**Computer aided plotting and cutting**



**High frequency sealing**



**Finishes and quality control**



**Packaging**



**Assembly**



*The membrane is made under rigorous quality control and validation by our specialists.*



# OUR MATERIALS

## *PVC*

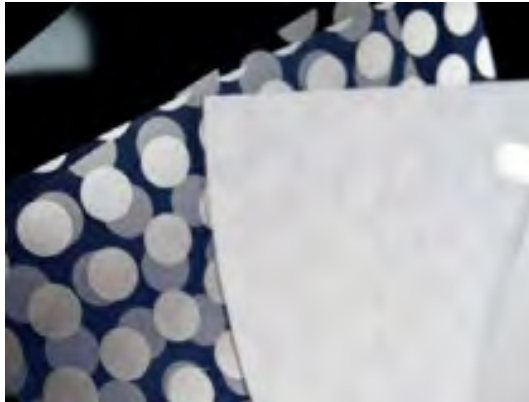


**Membrane**



**Mesh**

## *ETFE*



**Transparent**



**Weft**

## *PTFE*



**Membrane**



**Mesh**



# PVC AND PTFE CHARACTERISTICS



*Highly anti-seismic*



*Graphic customization*



*Optimization in assembly times*



*Ease of Cleaning*



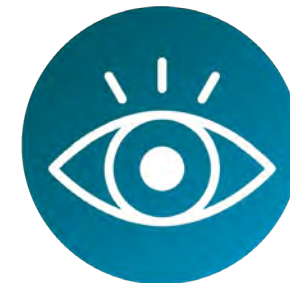
*Fire resistance*



*High thermal resistance*



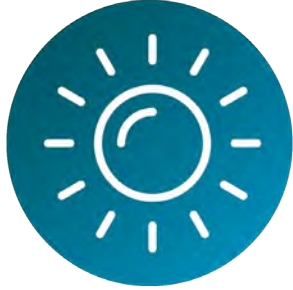
*Tensile strength and tear strength*



*Visual comfort & glare control*



# ETFE CHARACTERISTICS



***High natural light  
transmission***



***Mechanical and  
dielectric properties***



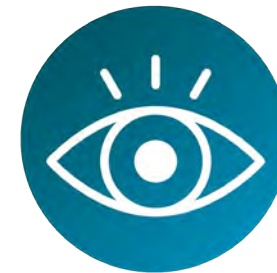
***High non-stick and easy  
to clean***



***Resistance to adverse  
weather conditions***



***Lightweight material,  
weighs 1% of the weight  
of glass***



***Visual comfort & glare  
control***



*Metallic cover*



*Textile Cover*



Estadio Monumental David Arellano -  
Colo Colo  
Santiago de Chile, Chile



# WHY WORK WITH TENSILE STRUCTURES?

CHARACTERISTICS	MEMBRANE COVER	METALLIC COVER
<b>NATURAL LIGHTING</b>	<i>Optimization in energy saving, it does not require electrical energy consumption during daylight hours.</i>	<i>Artificial lighting due to the opacity of the material.</i>
<b>EFFECTS WITH LIGHTING AND PROJECTIONS</b>	<i>Programming of colors and light effects. Advertising projected on the surface.</i>	<i>The metallic sheet does not favor the generation of lighting effects.</i>
<b>MAINTENANCE</b>	<i>Ease of cleaning and maintenance. Does not rust</i>	<i>Cleaning, replacement and temporary painting. Sensitive to oxidation and corrosion.</i>
<b>ARCHITECTURE</b>	<i>Differentiated architectural proposal.</i>	<i>Conventional architectural proposal.</i>
<b>ECONOMY</b>	<i>Optimization of the structure, does not require intermediate supports.</i>	<i>Greater investment in structure by weight and modulation.</i>
<b>EARTHQUAKE RESISTANT</b>	<i>Excellent response to earthquakes, due to its lightness and flexibility.</i>	<i>Good performance against earthquakes.</i>
<b>SOUND CONTROL</b>	<i>Attenuates echo and reverb effects.</i>	<i>Promotes echo and reverberation.</i>



[tensoestructuras.cidelsa.com](http://tensoestructuras.cidelsa.com)

