

# LIRA

*auditorium seating*



## TECHNICAL SPECIFICATIONS

### PRODUCT DESCRIPTION

LIRA model blends the best of traditional and contemporary design, with attractive shapes and comfortable padding volumes. This model can be set up with a wide range of accessories that will supply your needs while improving the global appearance.

### PRODUCT BENEFITS

- Replaceable back and seat covers, no staples or glue needed.
- Assembly does not require specialized labor or tools.
- Wide range of upholstery options, according to customer request.
- The shared centers provide a better use of space.
- Complete range of sizes: Widths from 19" to 23" (482 to 584 mm) / Height: 35" (890 mm).
- Lineal, radial (26 ft / 8m minimum), or sloped installations are available for wood and concrete floor.
- Serpentine springs add comfort, support and longer life to the seat bottom.
- Can add 15%-20% more patrons in same space, as quiet gravity lift seats fold up to a smaller envelope, enabling more rows.
- Metal exposed components are electrostatic powder-coat painted in black, which provides them high durability and resistance against hits, scratches, humidity, chemical components, etc.

### GENERAL CONDITIONS

#### Compliance

LIRA seating is designed and manufactured in compliance with the following performance criteria:

- SEATING DURABILITY TEST - STATIC: There shall be no sudden and major change in the structural integrity of the product after applying a load of up to 330 lb for one minute..
- SEATING DURABILITY TEST – CYCLIC: There shall be no loss of serviceability to the chair after completion an impact test of 100.000 cycles with a 125 lb bag weight
- ARM STRENGTH TEST – VERTICAL – STATIC: There shall be no loss of serviceability after applying a load of up to 150 Kg for one minute.
- ARM STRENGTH TEST – HORIZONTAL – STATIC: A 220 lb proof load applied once shall cause no sudden and major change in the structural integrity of the unit.
- ARM DURABILITY TEST – CYCLIC: Structural breakage or loss of serviceability shall constitute failure after completion an impact test of 100.000 cycles with a 220 lb bag weight.

#### Scope

The seats will be installed on the floor by a set of vertical support assemblies (with shared centers). The fixed back accommodates three pitch positions at 15°, 18°, and 21°. The seat cushion is counterbalanced with a gravity lift to ensure an automatic return to vertical position when the seat is unoccupied.

## TECHNICAL SPECIFICATIONS

### Sizes

Sightlines will be accommodated as indicated on the seating plans. The seats will be adapted to five widths of 19", 20", 21", 22" and 23" (482, 508, 533, 558 and 584 mm) between centers. This seating model is available in 35" (890 mm) height.

### MATERIALS

#### Back cushion assembly

High-grade steel, one-piece seat frame (18 gauge and 3/4" / 19mm diameter) for structural integrity. Cold molded polyurethane foam increasing from 3" to 4.5" (76 to 114mm) of thickness. Foam density ranges between 2.8 and 3.1 lb/ft<sup>3</sup>. The upholstery material will be bonded to foam and attached through non-automated upholstery methods. The back assembly is joined to the uprights by 14-gauge cold-rolled steel plates. 19", 20" (482, 508mm) backs include foam and structures dimensionally different than 21" - 23" ones (533 - 584 mm). Back covers are made of plastic: An injection textured high-impact polypropylene back shroud wraps around the edge of the inner structure board and the foam. Embossed for strength.

#### Seat cushion assembly

The seat assembly is constructed in High-grade cold-rolled steel, one-piece seat frame (16 gauge and 7/8" / 22mm diameter) for structural integrity. Cold molded polyurethane foam with an average thickness of 3" - 4" (76 to 100mm). Foam density ranges between 3.1 and 3.4 lb/ft<sup>3</sup>. The upholstery fabric will be bonded to foam and attached through non-automated upholstery methods. 10 gauge serpentine springs for a better seat cushion support. Bottom covers are made of plastic: An injection textured high-impact polypropylene seat shroud or an optional acoustical seat shroud (with drillings).

#### Flammability rating

LIRA seat is manufactured to meet California TB 117-2013 flammability testing requirements in its foam, fabrics, and vinyl. Some of our fabric and vinyl options meet Crib 5 testing.

#### Gravity lift mechanism

Seat pivot is an integral part of the seat assembly, it works by a counterbalanced mechanism that is maintenance-free and noiseless. Pivot includes an axle of 1/2" (12mm) diameter AISI 1020 steel, with a stamped 8-gauge steel sheet internal pivot stop. Seat pivots bushings are made in Nylon 6.6 and are attached to the seat by steel screws. The seat accommodates at 75° for the standard version and 90° for SSE (Space-saving envelope).

#### Uprights

Floor mounted uprights are constructed of 16 gauge steel 1" x 2" (25 x 50 mm) rectangular, seamless construction, welded to an anchoring floor plate made out of a stamped 11 gauge steel sheet by a robotic MIG welding, 4 hole foot for obstruction flexibility during installations. Powder-coat painted finish.

#### Armcaps

Armcaps are mounted on 11 gauge steel support, welded to the uprights.

*Plastic:* Injected polypropylene, attached to the armcap support with bristol screws.

*With cupholder:* Injected polypropylene, with an integrated cupholder. Sized to accept standard cup sizes and cans.

## TECHNICAL SPECIFICATIONS

### MATERIALS

*Thermolaminated:* Machined in a medium-density fibreboard, constructed with a durable and decorative surface (PVC foil: Thickness: + 0.5 - 0.3mm) on the face and edges. Attached to the armcap support with bristol screws.

*Wood:* Machined in pinewood and painted, attached to the armcap support with self-tapping screws. The SSE version includes smaller wood armcaps than the standard version.

### Aisle light (optional)

12V AC/DC Guide lighting fixture uses highbrightness LEDs to provide glare-free, nonintrusive illumination of aisles and steps. LED colors: Yellow, White and Warm White are standard, Red and Blue available. Optional row indicator with improved wider view window (150% larger than original) with edge lit illumination and etched alphanumeric display

LED Aisle light	
Light size	2.25" diameter
Voltage	12 V AC or DC
LEDs per fixture	9
Power per aisle	0.72W (1.3W with optional Row Indicator)
LED Color temperature	2500°k to 3100°k for warm white and 5000° to 6000°K for white
Operating fixture life	Yellow LED – 100,000-hour. White, Warm White LED – 50,000-hour
Lumens per fixture	29.56
Wire	Integrated wireway and end cap system available. 8" length

\*Transformers are provided.

### Decorative end panels

Constructed from 20 gauge steel sheet, upholstered or laminated and fitted to the uprights. A wooden end panel is also available, built in plywood (5/8" / 16mm thick) with polyurethane paint finish or HPL laminated.

### Seat numbers (optional)

Optional white seat numbers are stamped on 5/8" x 2" (16 x 46mm) black polypropylene pieces, and are available for assembly into elliptical-shaped recesses on the front of the plastic seat shrouds, by self-tapping screws

## TECHNICAL SPECIFICATIONS

### MATERIALS

#### Row markers for end panels (optional)

Row markers are stamped on PMMA 2.3" (60mm) diameter pieces are available for assembly into end panels by self tapping screws.

#### Designated Aisle Seat - ADA Arm

Armcap support has a mechanism that makes it able to flip up and provides easy access for limited mobility occupants.

### AVAILABLE CONFIGURATIONS

Height 35"	Height 38"	Height 40"	Width 19" a 23"	Width 21" a 23"	Upright in T shape	Upright in Z shape	Writing surface*	HPL-Metal end panel	Fabric-Metal end panel	Upholstered end panel	Laminated end panel	Wooden end panel	Thermolaminated end panel	Wooden armcap	Laminated armcap	Plastic armcap	Cupholder	Thermolaminated armcap	ADA armcap	Upholstered covers	Plastic / acoustic covers	Wooden covers	Laminated Covers	Thermolaminated covers
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\*Ask for an independent technical sheet specs.

### FLOOR REQUIREMENTS

#### Concrete floor:

- Concrete with a strength of at least 3,000 PSI
- A minimum thickness of 4" (100mm).
- Each chair must be installed on the floor with two (2) expansion anchor bolts delivered and specified by INORCA SAS
- Must be installed diagonally on the fixing floor plate of each standard.

#### Wood floor:

- The floor must be hardwood
- A minimum thickness of 1" (25mm).
- Each chair must be installed on the floor with four (4) self-tapping screws supplied and specified by INORCA SAS, one in each hole of the fixing plate

## FINISH GUIDE



## DIMENSIONS (INCHES AND MILLIMETERS)

