Technical Specifications

Extol™ Auditorium Seating

December 2014

SCOPE

Seating shall be “Extol” as distributed by KI, Tupelo, MS.

Seating shall be floor mounted with common upright support assemblies with upholstered seat and back cushions. The fixed back shall accommodate three pitch positions at 16°, 20°, and 24°. The back cushion is protected by an injection-molded polypropylene back shroud. The seat cushion shall be counter-balanced with a gravity lift to ensure an automatic return to a full fold position.

COMPLIANCE

"Extol" seating shall be designed and manufactured in compliance with the intent of BIFMA X5.4-2012. Seating shall exceed all applicable BIFMA performance criteria.

GENERAL CONDITIONS

Code Requirements

Compliance with the required local and national building and safety codes is the sole responsibility of the Owner/Architect/Contractor. Shop drawings are based on code requirements for assembly seating as found in IBC (International Building Code). Code information above is offered for informational purposes only and strictly as a courtesy to the Owner/Architect/Contractor. This is in no way an assumption of duty on the part of KI relative to code interpretation and compliance. KI personnel are not trained for, nor are they experts at code compliance or interpretation.

Field Verification

Shop drawings incorporate building information compiled from various sources associated with this project and deemed as reliable. Conditions directly affecting the product or its installation must be field verified.

Drawing Review

Shop drawings are produced to assure compliance with the contract. Drawings must be reviewed by the Owner/Architect/Contractor, or other appropriate owner’s representative. If drawings are correct, mark them as such; if incorrect, note corrections to be made and return to KI for corrections. Any deviations from the contract included in the shop drawing must be approved in writing from the Owner/Architect/Contractor. Drawing must be signed by authorized personnel including title company or affiliation, and date. Manufacture of product shown is not scheduled until drawing review is complete and owner’s authorized signature is received.

SIZES

Seating will be manufactured in five seat and back widths to accommodate four nominal seat spacings of 20", 21", 22", 23", and 24" seat centers. View lines will be accommodated as indicated on the seating plans. Seating with left- or right-hand tablet uprights (as seated) will be manufactured to accommodate 20", 21", 22", 23", and 24" seat center spacings.

MATERIALS

Back Cushion Assembly

Structural back shall be a 11-ply, 15 mm (.6") molded plywood inner structure bonded to 55 mm (2.17") urethane foam. Foam density shall be 55 kg per cubic meter (3.4 lb per cubic foot). An injection-molded polypropylene back shroud wraps around the edge of the inner structure board and the foam. The fixed back assembly with integral shroud is mounted to the uprights by four screws bolted through the structural 2 mm thick steel inner back brackets. Three pitch options shall be available, 15°, 19°, and 23°, to be set during installation. Overall back height shall be 864 mm (34").

Seat Cushion Assembly

The seat assembly shall be constructed of an inner structure consisting of 25% fiberglass polypropylene 4 mm (.16") steel springs, covered with 110 mm (4.33") molded urethane foam cushion of 55 kg per cubic meter (3.4 lb per cubic foot). The upholstery fabric shall be placed around the seat foam and stapled to the ring. The bottom shall be covered by an injection-molded polypropylene seat shroud. All pivoting and positioning shall be accomplished within the seat cushion assembly, thereby eliminating all pinch points.

1330 Bellevue Street • P.O. Box 8100 • Green Bay, WI 54308-8100 • Tel 1-800-424-2432 • www.ki.com

Furnishing Knowledge®

Seat Pivot Assembly
Seat pivot shall be an integral part of the seat assembly. The seat pan shall pivot on a 70 mm (2.75") diameter self-lubricating plastic shaft. Seat assembly shall be fastened to upright brackets by M8 bolts. The seat return shall be a gravity-lift which automatically returns the seat to a full fold position.

Uprights
Floor mounted uprights shall be 1.5 mm x 25 mm x 7.5 mm (.06" x 1" x 3") rectangular, steel column welded to an 3 mm (.12") back plate with a 2 mm (.08") steel top cap. The floor plate shall be 3 mm x 280 mm x 25mm (.125" x 10" x 1.8") with a hole-to-hole dimension of 240 mm center to center. Floor plate is attached to the upright by a concealed weld. Finish to be powder-coated according to the standard color offering.

Armcap
Armcap shall be injection-molded polypropylene, 60 mm (2.36") wide x 305 mm (12") long and attached to the armcap support with four concealed screws.

Optional wood armcaps shall be machined ash 60 mm (2.36") wide x 305 mm (12") long and attached to the armcap support with 4 concealed screws. Not available for use with tablet uprights.

Note: Natural wood and wood veneers may have variations in pattern, grain, and coloring that can produce inconsistencies in the finished product. The inconsistencies may show up as dark patches or lines, color variations between light and dark, and various grain patterns. The variations are normal and cannot be avoided.

Cupholder Armcap - Plastic
Shall be constructed of polypropylene 95 mm (3.75") x 393 mm (15.5") with a 78 mm (3") diameter cupholder, molded into one integral unit with bottom element for support. Cannot be specified with tablet uprights.

Tablet Arm
Tablet shall be self-storing, gravity-activated, one-motion tablet arm, consisting of a storable writing surface constructed of a 11 ply eucalyptus core. .8 mm (.03") high-pressure laminate on face and back, measuring 10" x 15½" (131 sq. in.) capable of supporting a laptop computer. The tablet arm mechanism shall consist of a pivot arm, pivot mount bracket, and support bracket constructed of 3 mm (.12") thick steel with controlled 90° side-to-side rotation and 86° up-and-down rotation. Tablet arm will store between the seats.

Aisle Light
Aisle lights are mounted inside a molded plastic rectangular housing approximately 1" high x 3⅜" wide and approximately 11½" off the floor on flat floors. The light and housing shall be attached to the outside of an end panel. Wiring for the light shall feed down through the upright tube and out the inside of the upright. Aisle light wiring shall be hard-wired to the building source by a certified electrician. Transformers are not provided.

Available with LED lights.

	LED Aisle Light
Voltage	12VDC
Current per lamp	0.04 amps
Lamps per aisle light	4
Power per aisle light	.48 watts
Operating lamp life	40,000 hours
Candlepower	N/A
	N/A
	N/A
	N/A
	At floor, under light = 2.4
Wire	22-gauge, 2-conductor multi-strand copper, clear jacket, copper + and silver -, 48" long

Note: A 12 VDC class II power supply is required for LED aisle lights. (Power supply not supplied by KI.)

Decorative End Panels - end panels are standard on all end uprights
Plastic end panel shall be injection-molded polypropylene, attached to the upright with four screws.

Laminate end panel shall be 18 mm (.71") thick MDF particleboard core with .8 mm (.03") high-pressure laminate on both sides, attached to uprights with four screws.

Wood end panel 13 ply 18 mm thick eucalyptus, stained to standard finish specifications. Edges shall be stained to match veneer faces.

Note: Natural wood and wood veneers may have variations in pattern, grain, and coloring that can produce inconsistencies in the finished product. The inconsistencies may show up as dark patches or lines, color variations between light and dark, and various grain patterns. The variations are normal and cannot be avoided.

Row Markers and Seat Numbers
Seat numbers shall be 18 mm (.71") x 42 mm (1.65") x .3 mm (.012") thick brass plate, secured with screws. Seat numbers shall be recessed on the front of the seat shroud. Row markers shall be secured to the decorative end panel.

ADA Swing Arm
Armcap support shall be hinged at rear to allow armrest to flip up, providing easy access for limited mobility occupants.

ADA Removable Units
Chairs requiring mobility for handicapped access shall be mounted to a 7-gauge welded frame and shall include 4 glides per upright. One-, two- and three-seat units are available.

FLOOR MOUNTING REQUIREMENTS

Minimum Floor Construction Required for Upright Installation

Concrete Floors
- 3000 psi concrete compressive strength
- 3" thick free of obstructions for 1-1/2"
- Minimum anchor embedment 1-1/2"

Wood Floors
- Minimum two layers of 3/4" thickness tongue and groove
- APA rated grade plywood
- Allow minimum embedment 1-1/2" with lag screws

Note: Warranty null and void if KI product is installed on flooring not meeting minimum structural requirements above.

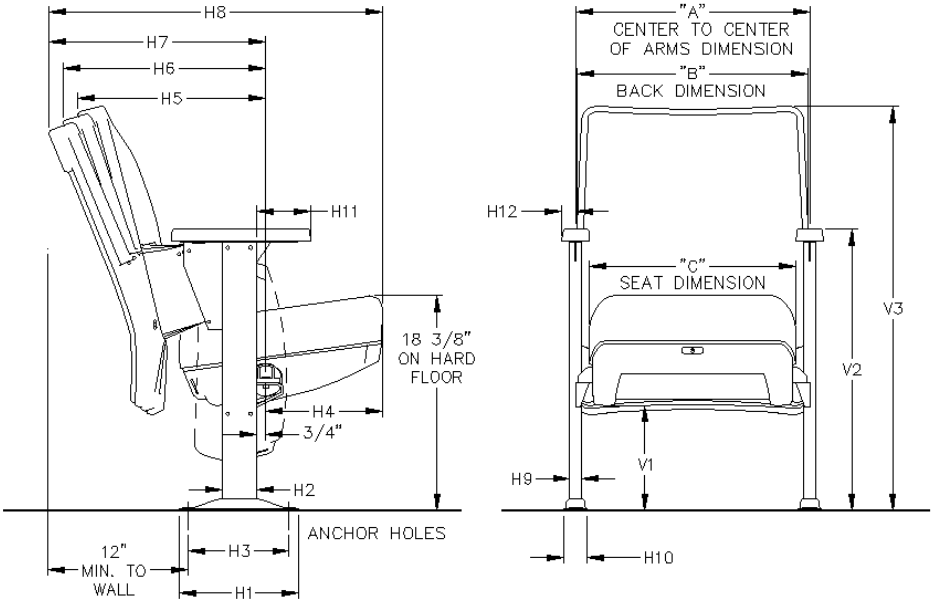
Floor Fastener Requirements

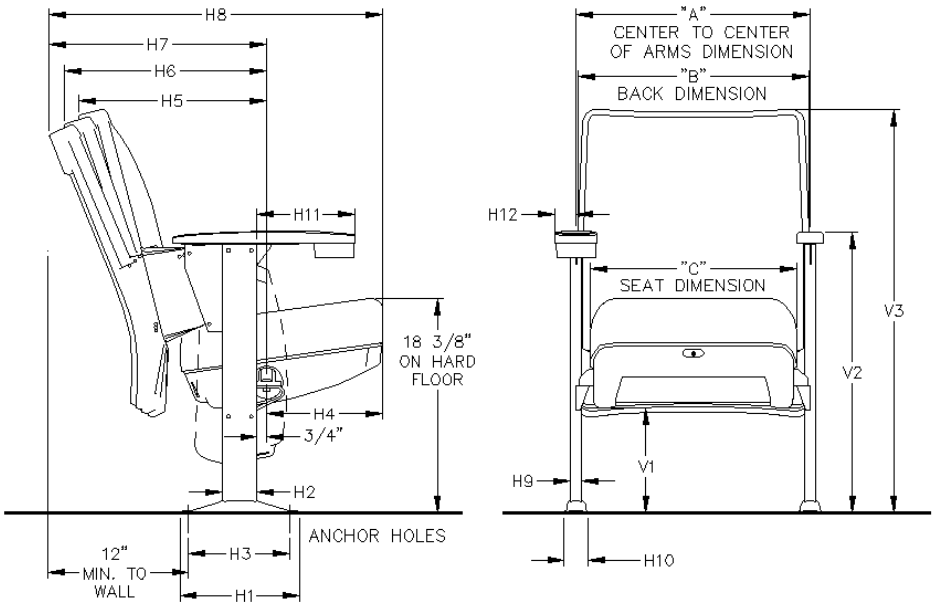
Concrete Floors
- Hilti 1/4"KH-EZ x 2-5/8"
- Max. torque: 18 ft. lbs.
- Two anchor assemblies required per base

Wood Floors
- 3/8" x 2-1/2" tapping screw
- Two bolt assemblies required per base

Note: Floor mounting anchors are not provided unless specified.

FLOOR MOUNT (Riser option not available. Power option not available.)
Extol Seating



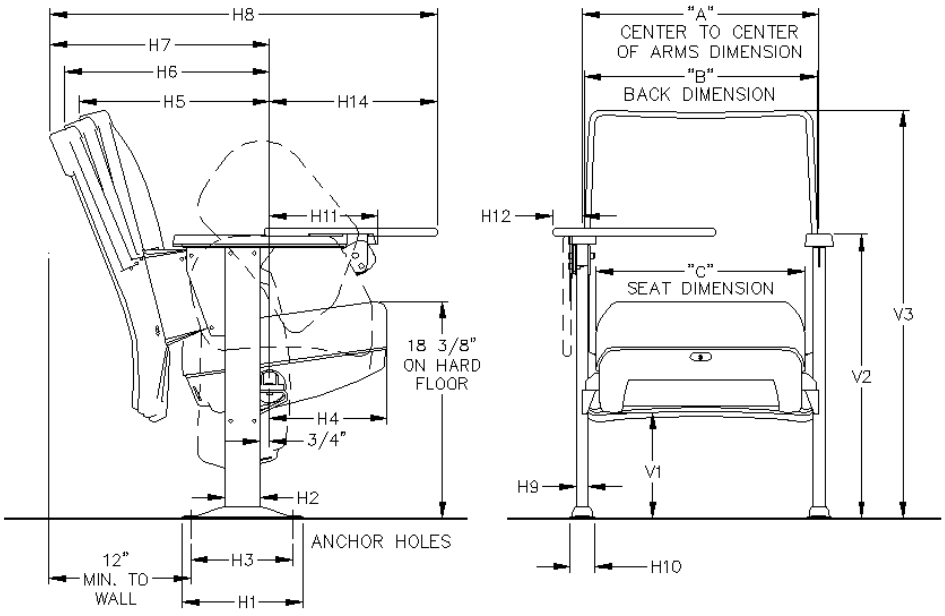


Seat Tag	A	B	C
20	20"	19-3/4"	17-5/8"
21	21"	19-3/4"	17-5/8"
22	22"	19-3/4"	17-5/8"
23	23"	22-3/4"	20-5/8"
24	24"	22-3/4"	20-5/8"

H1	Floor Mounting Plate	11"
H2	Upright	3"
H3	Bolt Holes	9-7/16"
H4	Seat Pivot Point to Seat Front	10"
H5	Seat Bolted Forward Position	16 deg. 16"
H6	Seat Bolted Mid Position	20 deg. 17-1/4"
H7	Seat Bolted Back Position	24 deg. 18-1/2"
H8	Seat Back to Seat Front	28-1/2"
H9	Upright Thickness	1"
H10	Upright Base Width	2-1/8"
H11	Armcap Protruding from Front Upright Frame - Plastic - Wood - Cupholder Plastic	 4-5/8" 5" 8-3/8"
H12	Outer Edge of Armcap to Centerline of Upright - Plastic or Wood - Cupholder Plastic	 1-1/8" 1-3/4"

V1	Floor to Bottom of Seat - Down Position	9-1/8"
V2	Floor to Top of Flat Plastic Armcap	24"
V3	Floor to Top of Seat Back - Mid Position	34-5/8"

FLOOR MOUNT (Riser option not available. Power option not available.)
Extol Seating with Tablet Arm



Seat Tag	A	B	C
20	20"	19-3/4"	17-5/8"
21	21"	19-3/4"	17-5/8"
22	22"	19-3/4"	17-5/8"
23	23"	22-3/4"	20-5/8"
24	24"	22-3/4"	20-5/8"

H1	Floor Mounting Plate	11"
H2	Upright	3"
H3	Bolt Holes	9-7/16"
H4	Seat Pivot Point to Seat Front	10"
H5	Seat Bolted Forward Position	16 deg. 16"
H6	Seat Bolted Mid Position	20 deg. 17-1/4"
H7	Seat Bolted Back Position	24 deg. 18-1/2"
H8	Seat Back to Tablet Front	32-3/4"
H9	Upright Thickness	1"
H10	Upright Base Width	2-1/8"
H11	Seat Plvot Point to Front Protrusion of Tablet Arm	9-1/4"
H12	Center of Upright to Tablet Outer Edge	2-1/2"
H13	NA	NA
H14	Seat Back Pivot Point to Tablet Front	14-1/4"

V1	Floor to Bottom of Seat - Down Position	9-1/8"
V2	Floor to Top of Flat Plastic Armcap	24"
V3	Floor to Top of Seat Back - Mid Position	34-5/8"