ANNEX A  
OFFICE SEATING TECHNICAL SPECIFICATIONS

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# GENERAL

## SCOPE

These specifications detail the minimum technical requirements applicable to rotary and side chairs for the office environment under this Consolidated Procurement Instrument (CPI) qualification program.

## TESTING & CERTIFICATION REQUIREMENTS

All chairs, other than Large Occupant and 24/7 must comply to CAN/CGSB-44.232 Chairs for Office Environments. Large occupant and 24/7 still need to meet the requirements of sections 4.2 for Flammability and 4.5 Workmanship.

Rotary Chairs and Stools designed for large-occupant seating (When specified) must meet the performance testing as described in ANSI/BIFMA X5.11 – General Purpose Large Occupant Office Chairs.

Test Reports:

All products must hold a valid certification or meet the most recent version of all applicable standards and be tested in an acceptable test facility, unless otherwise stated herein. See definition for Acceptable Test Facility under Section 5.1 in Terminology.

Test reports must not be more than five years old from the date the test was performed with the exception of fabric tests applicable to the ACT Voluntary Performance Guidelines.

If a particular test requirement is changed following the revision of a standard, then it is necessary to retest a product to that particular test sections. Testing must occur within nine (9) months from the release date of the revised standard.

If a change is made to an existing product, test requirements of all applicable standards that would reasonably assess the change must be performed with latest manufactured products.

Manufacturers must comply to and have a valid certificate for ISO 9001 – Quality Management System – Requirements.

Fabric used to upholster the chairs must meet the ACT Voluntary Performance Guidelines for upholstery and must pass its applicable testing requirements and acceptance levels. The fabric must meet the heavy-duty rating for abrasion resistance and obtained the ACT certification mark for abrasion A. The Breaking Strength and Seam Slippage Tests in the ACT Voluntary Performance Guidelines, do not need to be performed on three-dimensional (stretchable in all directions) knit fabric.

Upholstery must be manufactured from 100% recycled material or from other environmentally appropriate materials.

All polyurethane foam must meet the requirements as described in:

ASTM D3574 – Standard Test Method for Flexible Cellular Materials – Slab, Bonded and Molded Urethane Foams- Reference to CAN/CGSB 44-232.

Chairs must be measured as per ISO 24496-2017 or BIFMA CMD: Universal Measuring Procedure to ensure that chairs are measured uniformly whatever the country of manufacture. Uncertainty of Measurements applies.

Environmental Requirements

Public Services and Procurement Canada (PSPC) recognizes that circularity, minimizing the life cycle impacts of all materials, and the sustainable production, use and end-of-life management of plastics in public procurements is a priority as per the Greening Government Strategy, the Government of Canada actions on plastic waste in federal operations, and the Oceans Plastic Charter. To ensure goods procured through this CPI advance the protection of the environment, Suppliers must meet the following requirements:

All products must be certified by an independent third-party compliant to the ANSI/BIFMA e3 Furniture Sustainability Standard.

All products must achieve a minimum of Level® 2.

All plastic components must be recyclable at the end of their life.

The following product points are recommended targets and preference for products certified, seeking certification or seeking recertification, to the ANSI/BIFMA e3-2019 Furniture Sustainability Standard:

6.2.2 – Design for Durability, Repair, Retrofit, Remanufacturing, Recycling

6.2.3 – Extended Product Responsibility

6.3.3 – Bio-based Renewable Materials – Sustainable Wood

6.3.3.2 – 50% of the Product Weight

6.3.3.3 – Inventory and Bio-based Data Submittal

6.3.4 – Recycled Content

6.3.4.2 – 50% Recycled Content

6.3.4.3 – Recycled Content Data Submittal

6.3.5 – Responsible Packaging

6.4.2 – Manufacturing Impact Management

6.4.2.1 – Solid Waste Inventory, Allocation, and Data Submittal

6.4.2.2 – Solid Waste Diversion

6.4.2.3 – Hazardous Waste Inventory, Allocation, and Data Submittal

6.4.2.4 – Hazardous Waste Reduction

6.5.2 – Environmental Management System (Option 1: ISO 14001)

7.4.4 – Targeted Chemical Elimination

## SUBMITTALS

Offerings – the following are minimum requirements, at no charge to Canada.

Upholstery – A minimum of 10 solid colours and/or 5 patterned offerings. Each patterned offering to have a minimum of 10 colour variation. This can include a combination of all upholstery offerings such as woven, coated and knit fabrics.

Non-upholstery – a minimum of 3 colour variations for each type of non-upholstery offered.

Labelling requirements are as follows:

All products must be factory labelled with the name of the manufacturer / series / model / date of production / purchase order number.

Labels must be located in a discrete area as not to compromise the aesthetics of the product.

Labels or permanent tag must have QR code or web-link where users can find instructions for rotary task chairs.

Warranty requirements are as follows (including 24/7 applications):

Fabrics must be provided with a minimum five (5) year warranty period.

Structural and user adjustable components must be provided with a minimum ten (10) year warranty period.

Test reports must be provided for examination upon request. Reports must not be more than five years old from the date the test was performed with the exception of fabric tests applicable to the ACT Voluntary Performance Guidelines.

Detailed requirements of component verification reports according to CAN/CGSB 44.232 must be provided for examination when requested.

When test reports are requested, the CPI holder has five (5) business days to respond and provide valid test reports.

Manufacturer’s must submit proof of BIFMA Level® certification. Level achieved must be certified by 3rd party Level® Certification Body.

## PRIORITY OF DOCUMENTS

In the event of discrepancy between this specification and the Testing Requirements at section 1.2, the following priority of documents apply:

1. Annex A – Office Seating Technical Specifications
2. CAN/CGSB 44.232-2018 – Chairs for Office Environments
3. ANSI/BIFMA X5.1 – Office Chairs
4. ANSI/BIFMA X5.11 – Large Occupant Chairs (When specified)

## TERMINOLOGY

For the purpose of this specification the following definitions apply:

*Acceptable Test Facility*: A laboratory accredited to ISO 17025 by a nationally recognized body (such as the Standards Council of Canada or the American Association for Laboratory Accreditation (A2LA)) or a laboratory listed in the Canadian General Standards Board (CGSB) Laboratory Acceptance Program for the applicable scope of testing required.

*Rotary Chairs*: Classification 1 and 2 chairs with seat rotation for computer and non-computer use. For single-shift usage in an office environment. A chair intended to allow the user to sit at a seated height work surface including bar height.

*CMD*: Chair Measuring Device.

*Footrest*: A component of a stool that supports the user’s feet above the floor. (Footrest height can be fixed or adjustable)

*Armrest*: A component of a chair intended to provide support to the occupant’s forearm. (Including fixed and adjustable, height, clearance width, 3D and 4D arm)

*Headrest*: An optional component of a chair that supports the head, attached to the backrest.

*Large-Occupant Seating*: Designed to support a weight that exceeds 125kg (275 lbs.) but is less than 181 kg (400 lbs).

*Environmentally Appropriate Materials*: Materials that have minimal to no negative impact on the environment. These materials may include, but are not limited to, eco-friendly fibers and rapidly renewable resources.

*Recyclable*: A component, which after its intended use, can be recovered or reprocessed and diverted from the solid waste stream

*Lumbar Support*: Part of the chair that focuses on keeping the lumbar region of the back comfortable. Available Options: fixed , adjustable or self-adjusting.

*Tilt Mechanism*: A tilt mechanism is a device, which enables the seat and backrest to deviate from a horizontal or vertical position, or both.

*Multifunction Tilt*: Seat and back angle adjustment to be adjusted independently of each other. Equipped with tension control

*Synchro Tilt*: The seat and backrest tilt at the same time in a simultaneous movement with the seat in a ratio greater than **2:1.** Equipped with a tension control.

*Unison Tilt*: Standard or knee tilt mechanism with tension control.

*Weight Sensitive*: Automatically adjusts and regulating the force for tilt based on body weight, therefore there is no tilt tension control for this type of mechanism.

*Upholstery*: As defined in section 4.3 of CAN/CGSB-44.232 (woven, coated and knit fabrics)

*Non-upholstery*: Hard surface materials including but not limited to steel, wood or plastic.

*Nesting*: Chairs that can be compact together horizontally for ease of storage. Typically chairs supplied with casters.

*Stacking*: Multiple chairs that can be place one on top of the other vertically for ease of storage. Usually provide with an optional trolly.

*Glides*: Metal or plastic discs affixed to the bottom of the chair legs to protect the flooring

*Base Frame*: Structural component that supports the chair, typically a five star base with casters for rotary task chairs and 4-post legs with/without casters, 4 star base, wired, pedestal or sled base for side chairs.

*Self-Adjusting Lumbar*: Lumbar automatically adjusts to adopt a natural posture of seated person without the need of making any adjustment.

## GENERAL FEATURES

Metal: all painted metal components must be finished using an electrostatic powder coated finish or low VOC paint.

Casters: Must be provided for carpet or hard surface flooring.

Accessibility: when available, chairs to have brail on adjustment levers.

## CHAIR CLASSIFICATION DEFINITIONS

The Classifications of chairs are defined below as such:

**Classification 1**: Individual Work

Unassigned Task: Ergonomic task chair with moderate adjustments meant to accommodate multiple body types.

Dedicated Task: Intended for long periods of sitting. Multiple adjustments available to provide the user maximum ergonomic comfort and proper support for long term use.

**Classification 2**: Conference/Meeting Room Chairs: Intended for short to mid-term use for

collaborative meetings. Seating to have minimal adjustments with maximum comfort.

Stools: A collaborative high rotary chair intended to allow the user to sit at a bar or counter height work surface.

**Classification 3**: Heavy Duty Chairs:

Large Occupant: Comes with a heavy duty-frame, with a larger seat pan width.

24/7 Chair: For extended periods of sitting and can sustain 3 continuous working shifts, 7 days per week.

**Classification 4**: Guest Side Chairs: Non-rotary chair intended for short-term use for guest seating in

reception or waiting areas.

Rotary Guest: Rotary Chair with casters. Intended for short term use for touch down stations or small meeting areas. A comfortable swivel chair with fixed seat and backrest that resembles the image below.



# DETAILED PRODUCT REQUIREMENTS

## CLASSIFICATION 1 & 2 – ROTARY CHAIRS & ROTARY STOOLS

All rotary chairs and stools must meet the dimensions and adjustment ranges as per CAN/CGSB-44.232, unless otherwise specified.

Seat Depth:

Must be available as fixed or adjustable.

Fixed:

Shallow seat must range from 380mm (15 in.) up to and including 420mm (16.5 in.).

Medium seat must be greater than 420 mm (16.5 in.) up to 460 mm (18.1 in.).

Deep seat must be greater than 460mm (18.1).

Adjustable: must be adjustable by at least 50 mm (2.0 in.), must include range from 420 mm (16.5 in.) to 460 mm (18.1 in.). It shall be lockable at multiple positions within that range.

Seat Width: Standard rotary chairs and stools have minimum width of 450 mm (17.7 in.).

Seat Heights:

Must be adjustable.

Low seat height, must include range from 376 mm (14.8 in.) to 439 mm (17.3 in.).

Standard seat height, must include range from 417 mm (16.4 in.) to 512 mm (20.2 in.).

.1 Stool height, must have a minimum of 203 mm (8 in) adjustment within the acceptable ranges of 508 mm (20 in) to 889 mm (35 in) inclusive. Seat Angle:

Must be adjustable. (not applicable to weight sensitive mechanisms)

**Lockable** adjustment angle must range from 0° to 4° rearward.

Lumbar Support Height:

Must be available as fixed, adjustable, or self-adjusting.

Lumbar height must fall within the range of 150 mm (5.9 in.) to 250 mm (9.8 in.) above the seat. Must be measured by CMD.

Backrest Height:

Standard Back – height between 450 mm (17.7 in.) to 660 mm (25.9 in.).

High Back – height greater than 660 mm (25.9 in.).

Tilt Mechanisms:

Must be available with Multifunction tilt, Unison, Synchro Tilt, or Weight Sensitive mechanisms.

For Stool only: Optional Fixed back when specified.

Backrest-to-seat angle:

Must be adjustable. (not applicable to weight sensitive mechanisms)

**Lockable** angle adjustment with minimum 15° within a range of 90° to 120° from horizontal (inclusive), backrest to return to upright position when unlock when specified.

Armrest: Must be fixed or adjustable.

Adjustable arms must be cantilever or T-arm

Arm cap length: minimum 180mm (7.1 in.) and a minimum of 130 mm (5.1 in.) of the armrest length shall be within the armrest zone.

Arm rest width must be no less than 45 mm (1.8 in.).

Height adjustable:

At least 63 mm (2.5 in.) adjustment within the range of 176 mm to 289 mm (6.9 in. to 11.4 in.) in height.

Armrest clearance with lateral adjustment:

Minimum armrest clearance of 43 mm (19.4 in.) with at least 75 mm (3 in.) adjustment with 43 mm (1.69 in.) inwards adjustment.

Must have horizontally swivelling adjustable armrest caps and fully articulating armrests when specified.

Fixed Arms: For conference chair application can have Loop, T-arm or cantilever style.

Casters – must be available for carpeted or hard surfaces.

Foot Support for Stools – Must be equipped with an integrated fixed or height adjustable footrest.

Headrest: must be adjustable when specified. Must be adjustable and articulate to reach and support back of the head and neck.

Seat Waterfall edge – must curve downward.

Vertical Height: must be equal or greater than 40 mm (1.6”).

Radius: must be within the range of 40 mm (1.6”) to 120 mm (4.7”).

Finishes:

Seat and Backrest must be available in upholstery or flexible plastic or mesh material or combination thereof.  
Frame/Shell: Plastic

Base Frame: Metal or Plastic

## CLASSIFICATION 3 – LARGE OCCUPANT & 24/7 CHAIRS

All the specifications detailed in Section 2.1 comply to this section unless otherwise stated herein.

All rotary chairs and stools must meet the dimensions and adjustment ranges as per CAN/CGSB-44.232 (except seat width), unless otherwise specified.

Seat width:

Must have a minimum seat width of 560 mm (22 in.) for large occupant chairs.

## CLASSIFICATION 4 – ROTARY GUEST & SIDE CHAIRS

All side chairs must meet the dimensions and adjustment ranges as per CAN/CGSB-44.232, unless otherwise specified below.

Seat Depth and Seat Height:

Must be fixed.

Seat Depth: ≥ 380 mm (15.0 in.)

Seat Height:

Must be fixed for side chairs.

Must be fixed or height adjustable for Rotary Guest chair.

Standard Height range: ≤ 417 mm (16.4 in.) to ≥ 512 mm (20.2 in.)

Seat Angle:

Must be fixed unless Tilt Mechanism is specified.

Tilt Mechanism:

Rotary Guest chair must be available with tilt mechanism when specified.

Lumbar Support Height:

When available, Must be fixed.

Lumbar location: 150 mm (5.9 in.) to 250 mm (9.8 in.) above seat.

Backrest for Side Chair:

Must be a minimum height 354 mm (13.9 in.).

Backrest height for Rotary Guest Chair:

Must have a height range between 330 mm (13 in.) to 533 mm (21 in.)

Backrest-to-seat angle:

Must be available as fixed between of 90° to 103°.

Armrests: Must be provided with or without armrests

Must be fixed arms.

Must be available in Cantilever, T-arm, closed or Loop arm for side chairs.

Armrest Height: ≥ 300 mm (7.9 in.) to ≤ 250 mm (9.8 in.)

Leg supports:

Side Chair: Must be provided as four (4) post legs, cantilever or sled base.

Must be provided with glides or casters.

Rotary Guest: Must be provided with 4 or 5 star base..

###### Must be provided with glides or casters

Storage options for side chairs.

Stacking – Must be available as stacking when specified.

Nesting – Must be available as nesting when specified.

Must be available with storage trolly when specified.

Finishes:

Seat and backrest:

Must be available in upholstery, wood, plastic, mesh material or other manufacturer’s standard line of finishes.

Base Frame: Plastic, wood or metal (i.e. wired).