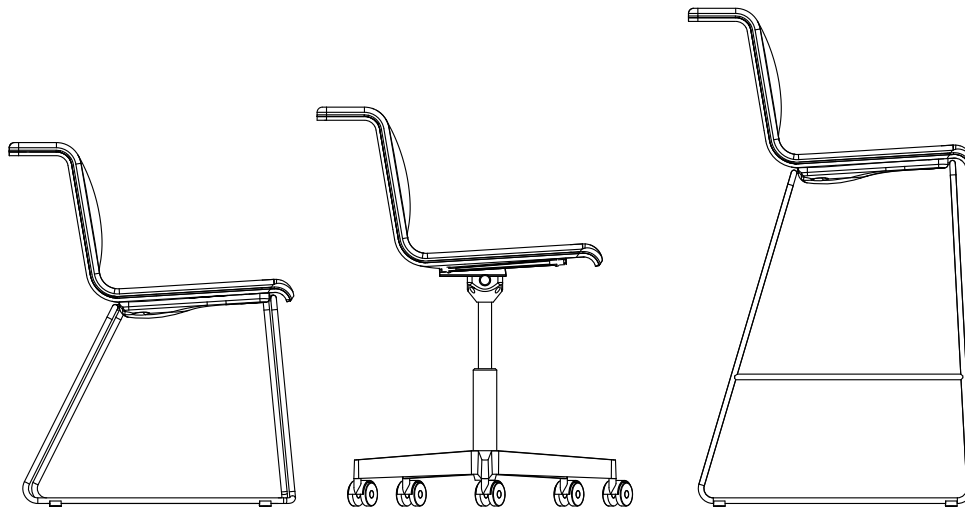


TAB Chair

TECHNICAL DESCRIPTION



1. Description:

The standard model (TAB22) is a stackable chair on a cantilever frame, produced by BULO according to a design by Alain Berteau. The chair has a seat shell of shaped multiplex, consisting of 12 layers of beech wood veneer (FSC) with a total thickness of 8mm. The base is a cantilever frame of chromium-plated steel 12mm in diameter. The base is screwed to the seating shell and is fitted with distance holders for stacking. The chair is supported underneath by 4 polypropylene glides. The chair is covered with fabrics or leather on the front side of the seat. The base is asymmetrical so that the chairs can be joined to each other at the sides to make rows. The design of the TAB chair encourages dynamic seating positions due to the extra tablet behind the seat shell, on armrest height.

Variants

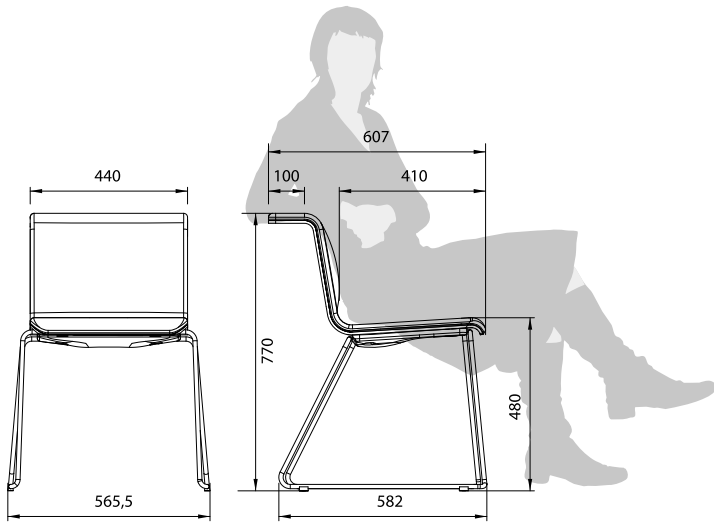
TAB 03 :

- seat shell on a height adjustable five star base, lacquered on wheels (hard/soft/with built in brake)
- also available on a height adjustable base lacquered, on glides

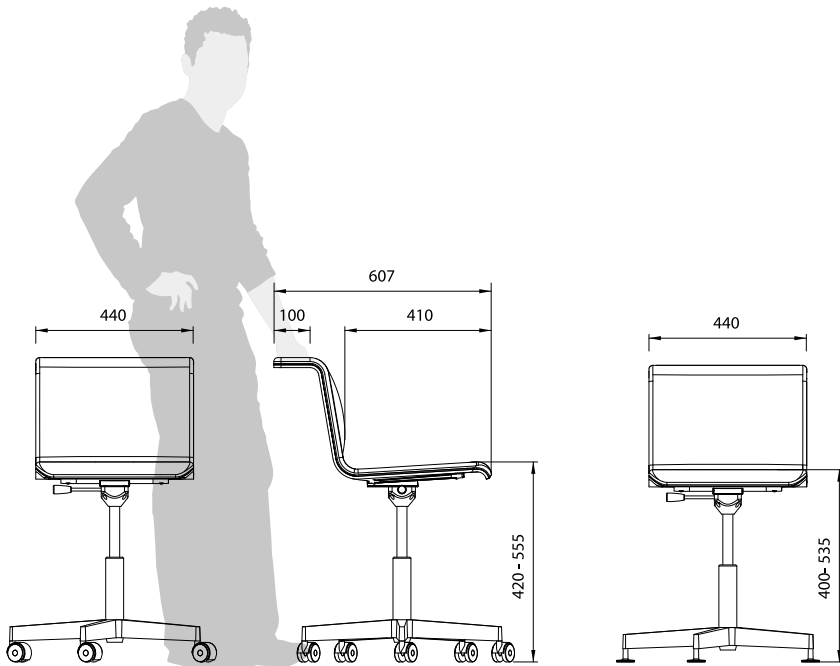
TAB 32 :

bar stool on cantilever frame (chromium plated)

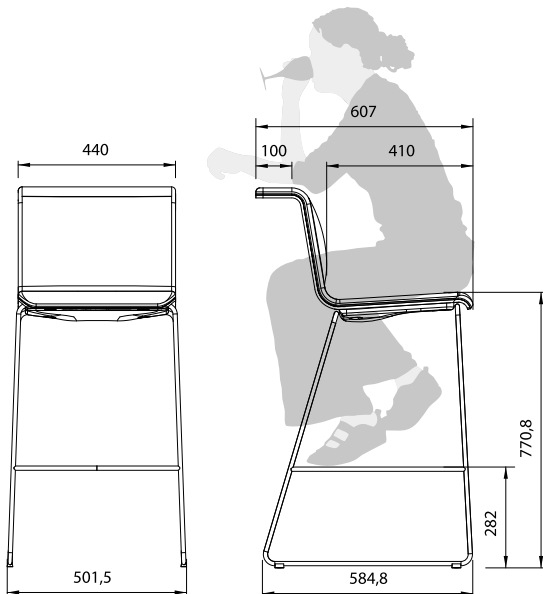
Also available with felt glides for wooden floors (TAB22/TAB32)



TAB 22 - Chair on cantilever frame - chrome frame



TAB 03 - Desk chair on wheels - metallic lacquered frame



TAB 32 - Bar stool - chrome frame

2. DESIGN:

WOOD VENEER: top layer in cut oak veneer, natural nut, and maple, finished with a white varnish (UV water based). Level of sheen 20% (DIN 67530)

LACQUER COLOURS: choice of 7 NCS colours: orange/grey-green/green/lily white (01), Light grey (02)/red/an-thracite black (the paint is a UV water based paint), level of sheen 20% (DIN 67530)

BASE:

TAB 22 and TAB 32: chromium plated

TAB 03: painted: matt precious steel colour, the paint is a composite façade paint on a base of polyester pigment, level of sheen 25%/60° (ISO 2813)

3. Upholstery

The upholstery is applied unilaterally on the front side of the seat and the back. This means that the rear side and the thickness of the seat shell underneath are still visible. All upholsteries can be combined with all veneer and paint colour designs. The upholstery is composed of a thinly shaped wooden shell of cold foam (20mm) and a top covering in fabric/leather/vinyl. There is a choice of polyether foam (density 45/impression strength 320N) and fire resistant polyether foam (density 36/impression strength 150N). Fire resistant foams always offer less comfort!!

fabrics:

From the HYBRIDS + FUSION 'high tech fabric system':

the Felto series: colours : orange-red/green/black/grey.

(93% polyamide microfibre + 7% elastane/60,000 Martindale/EN1021 1&2/
Teflon coated/clean with a mild soap solution)

Leather:

from the 1012 series by Ohman: black/brown/light grey/red

from the 1010 series by Ohman: our own green-grey colour

Vinyl: from the LOGAN series by Vescom (identical to Stamskin)

Colours: red/light grey/orange/yellowy green/brown/black)

Meets all norms for the public sector!!!

Materials from KVADRAT :

all colours from the TEMPO collection

all colours from the HALLINGDAL collection

- **Other materials/colours are possible on request**

4. Ecology

- Shell in FSC veneer
- CFK free polyether foam which can also be recycled physically and chemically
- Water based lacquer which is applied in accordance with the strictest European norms.
- The upholstery and base are attached to the wooden shell by machine and can therefore be changed or dis-mounted later
- 4 chairs can be packed together.

5. Links

The base is asymmetrical so that the chairs can be joined together at the sides to make rows. And so, the distance between the chairs varies!!!



Two plastic clips are fitted under the tub as standard: this clip fixes a set distance between 2 chairs and ensures that the chairs are arranged neatly in a straight line. The clip has the facility to fix two intermediate intervals (an intermediate interval measured between the tubs of either 75mm or 145mm).

The choice of intermediate intervals results in one chair's difference every 12 chairs: 75mm = 12 chairs, 145mm = 11 chairs). This variable intermediate interval is a new detail in linking chairs.

As regards linking chairs, we have taken account of the European directive which has not yet been normalised, however. It concerns the right balance between keeping the rows intact and keeping escape routes free.

The local fire service always has to give advice on public projects.

6. Stacking

Up to six TAB 22

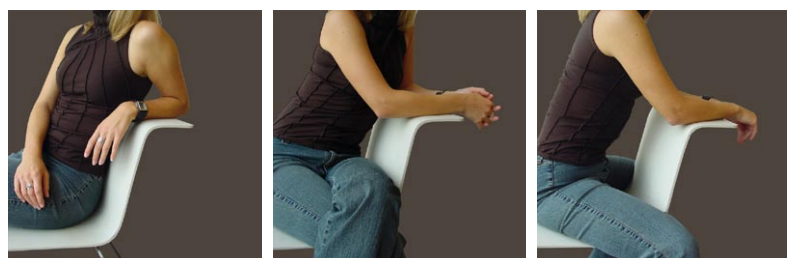


7. Ergonomics

LACK OF MOVEMENT DUE TO TOO LITTLE VARIATION IN SITTING POSITION IS A MAJOR CAUSE OF BACK COMPLAINTS!

SUPPORT IN THE LOWER BACK AREA PUSHES THE PELVIS FURTHER FORWARDS SO THAT THERE IS LESS STRAIN ON THE SPINAL COLUMN!

The shape of the chair with the tablet on armrest height and the bulging in the lower back contribute to these two important ergonomic principles (see also the extra ergonomic appendix).



8. Norms

The chair has been tested positively against the European norm in matters of durability and stability and against the American Bifma standard.

- NF EN 13761 European norm which tests general safety norms when the chair is in use (sharp edges, jamming points, etc.) and also states the following normative references:
 - NF EN 1022(97) = norm stipulation of stability in all directions
 - NF EN 1728(01) = norm stipulation of strength and durability

"Norm 13761 is comparable to the European ISO norm 7173 which tests the same static strains. The ISO norm refers to level 4 = heavy professional use and level 3 = light office use (visitors' chairs). NF EN 13761 tests certain strains (on the seat) according to level 4 and certain strains (on the back) according to level 3."

BIFMA STANDARD : American equivalent to the European norm, and it also applies to South East Asia.

The fire norm tests give the following results:

Different upholstery combinations have been tested (except for leather) according to a test which is valid in America ('California test' bt116) / the strictest English fire norms BS 7176 and BS 5852-4 / the French d2 2000 cf. classification (cf. = cigarette et flamme)

The foams always have to be fire resistant for American and England i.e. this always means less comfort. The French norm is the strictest in continental Europe: it examines the cf. classification of the whole unit (foam + material) i.e. a combination with non-fire resistant foam is permitted if the unit as a whole meets the norm.

Felto:

Felto upholstery + fire resistant foam:

- French norm d2 2000: cf. classification
- BS 7176 and bs 5852/4: positive
- bt 116 in positive

Tempo:

Tempo upholstery + fire resistant foam:

- French norm d2 2000: cf. classification
- BS 7176 and bs 5852/4: negative
- BT 116 : positive

Hallingdal:

Bekleding Hallingdal + niet-vlamvertragend schuim :

-Hallingdal upholstery + non-fire resistant foam:

- French d2 2000: cf. classification

Hallingdal upholstery + fire resistant foam:

- BS 7176 and bs 5852/4: positive
- BT 116: positive

Vinyl(Logan):

Bekleding vinyl + niet-vlamvertragend schuim :

Vinyl upholstery + non-fire resistant foam:

- French norm d2 2000: cf. classification

Vinyl upholstery + fire resistant foam:

- BS 7176 and bs 5852/4: positive
- BT 116: positive

And so, only Tempo + fire resistant foam does not meet the English norm because the material is very thin and it loses its fire resistant properties when it is glued to the foam.

Ergonomie

GENERAL

The TAB CHAIR is a chair which allows different sitting positions due to its shape and dimensions. In this way, it meets the need of a seated person to be able to move freely and it does this in an ergonomically responsible manner. The width of the seat (44cm) allows plenty of leg space on the sides. This means the user can also sit diagonally with arms resting on the bar.

The bar at the back is an ideal support for the arms. The height of this 'armrest' (32cm higher than the seat) is relatively high, but this is very ergonomic because it takes the strain off several back and shoulder muscles. The backrest is quite low partly because of this, but it does free the shoulder blade area completely and this in itself promotes free movement. The low back support also prevents the lumbar vertebrae in the lower back from sagging.

On the other hand, the bar is also a clear handle to move the chair.

The bulging in the backrest supports the underside of the backbone (lumbar vertebrae). This support prevents the lumbar area from sagging and in this way also ensures that the intervertebral discs are not put under extra strain.

Furthermore, the bulging also ensures that it is easier to turn sideways whilst seated and that there is still a constant support in the loins.

And so, to sum up, it can be stated that the TAB CHAIR is a chair which allows the user to adopt different sitting positions easily. Everyone will adopt their own personal sitting positions. It is precisely this freedom which ensures that the vertebrae and back muscles move and are given good blood circulation in many different ways. This is an extremely healthy basic principle for designing a chair from an ergonomic point of view.

QUOTATIONS FROM ERGONOMIC LITERATURE:

"research which strengthens 3d trade link in their folder"

...research in the Netherlands has shown that sitting down for long periods puts a lot of strain on the intervertebral discs, thereby giving rise to back complaints. Lack of movement due to too little variation in the sitting position has been established by this research as the major cause of back pain...

"fragment of an article from the magazine 'Inside Information', April 2005: backrest is the major drama"

... if you apply the general rules of biomechanics, you arrive at a surprisingly simple list of requirements which tell you how a chair has to be designed so that you can sit comfortably. In this context, sitting comfortably means: no burning sensation in the thighs and no nagging pain in the lower back. In addition, you must be able to function freely. And so, this list of requirements for a chair contains three main elements: firstly, a backrest which is low enough so that it does not push the shoulder blades forward or which allows free shoulder blade space. Secondly, a seat with a slight incline: you don't sag down with a bulging back in a chair like this since you can't slide up a slope. Then there is still a third basic principle: the backrest and the seat must stand square to each other. An angle of 90 to 95 degrees is fine. If a chair meets these three requirements, it will offer a good sitting position for lots of situations! ..."

"translation from the book 'BODYSPACE' by Stephen Pheasant – 1996"

... the aim in designing a chair is to provide support for the lumbar area without using our back muscles. Taking the strain off these muscles gives a relaxed sense of comfort whereby the lumbar vertebrae cannot sag in a ball...