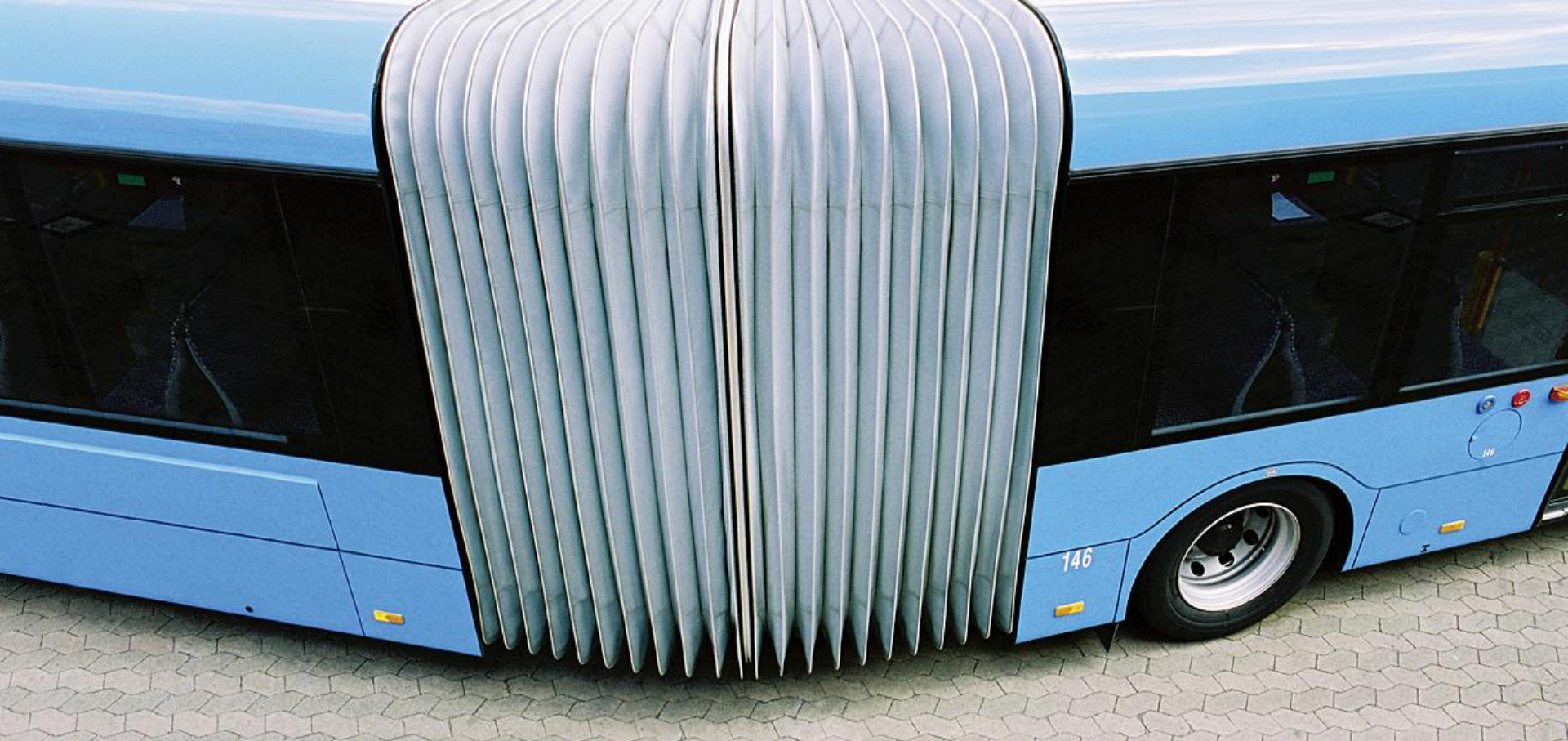




# FOLDING BELLOWS





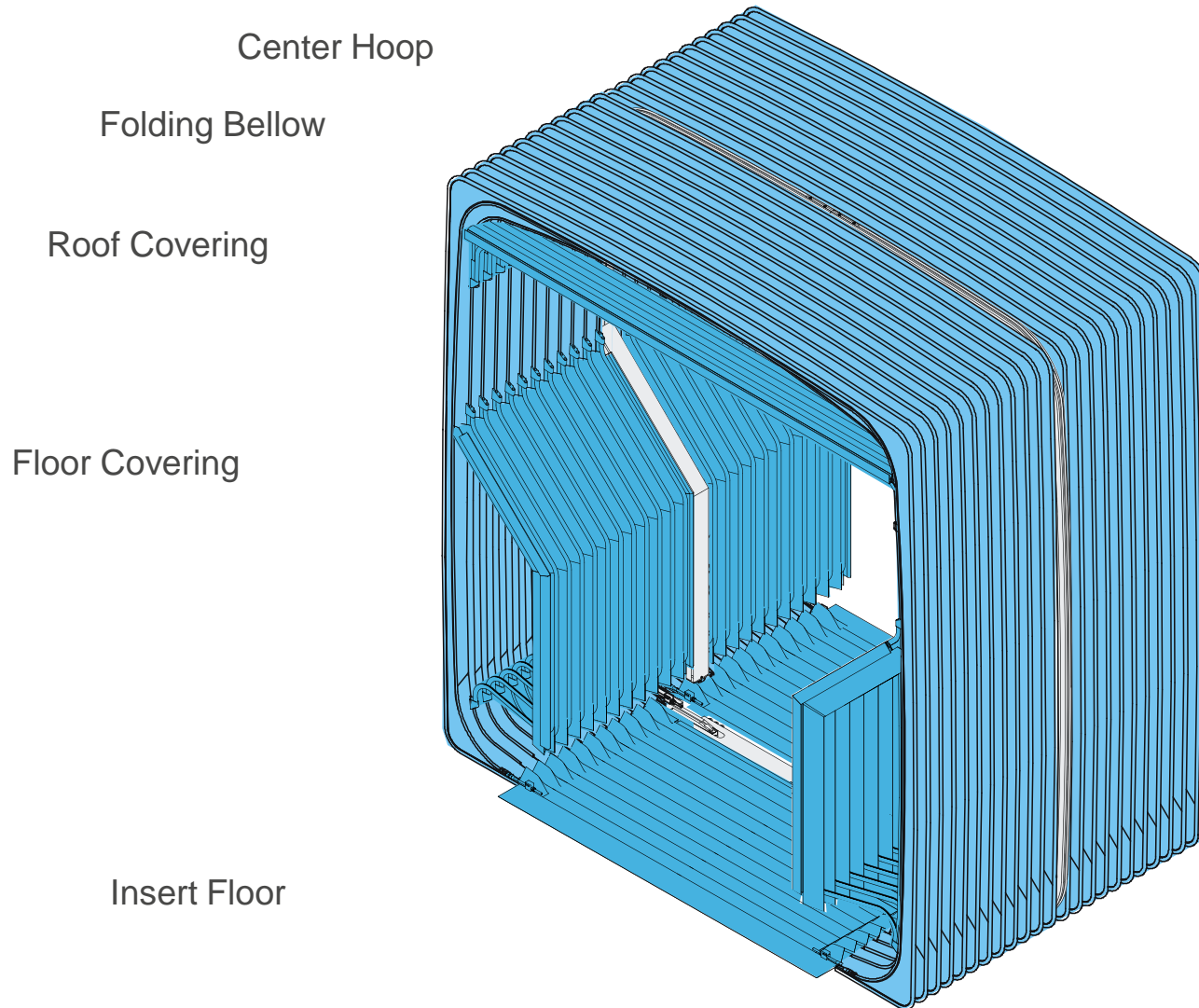
## FOLDING BELLOWS BY HÜBNER

- Proved standards
- Diverse fabric for different requirements
- High ability to adapt
- Accreditation for E1
- Thousands of bellows in use worldwide



# FOLDING BELLOWS – GENERAL INFORMATION

## Assembly





## A WIDE RANGE OF CUSTOMIZED SOLUTIONS

- Bellow fabric
- Outer bellow design
- Bellow floor solutions
- Floor coverings
- Roof coverings
- Head coverings
- Internal coverings
- Center hoop solutions
- Suspension frames





## TAILOR-MADE AND SPECIALLY ADAPTED TO THE VEHICLE TYPE AND DESIGN

- Standard bellows
- Colored bellows
- Translucent bellows
- Individual design
- UV stability
- Resistant to heat and cold
- High tear, tear-growth and wear resistance





## BELLOW FABRIC

### Kinds of materials

- CSM
- EPDM
- Silicone
- Bi-elastic
- PVC
- special canvas
- TPU

The materials are

- dirt-repellent and
- corresponding with established fire accreditation standards





## TYPES OF OUTER BELLOWS

### Colored bellows

- Varnished
- Pigmented
- Imbued





## TYPES OF OUTER BELLOWS

### Translucent bellows

- Translucent window
- Translucent roof
- Translucent roof covering







## BRILLIANFLEX® – TRANSLUCENT FABRICS

High-grade materials for a bright and friendly atmosphere

- Tested around the world in a wide range of climatic conditions
- Oil and fuel resistant
- Fulfils the requirements of: ECE-R118, 95/28/E, DIN 5510, EN 20105, ISO 105
- Heavy-duty base fabric made of polyester
- High UV resistance and temperature range from -40° C to 100° C



# TYPES OF OUTER BELLOWS

Development of new procedures regarding

- Laminated and printed bellows





## TYPES OF OUTER BELLOWS

### Details of bellows

- Pocket corners
- Double folding





## TYPES OF OUTER BELLOWS

### Details of bellows

- All frames with black powder-coating and roof covering
- All frames with inherently aluminum and roof covering
- All frames with inherently aluminum (no roof covering)



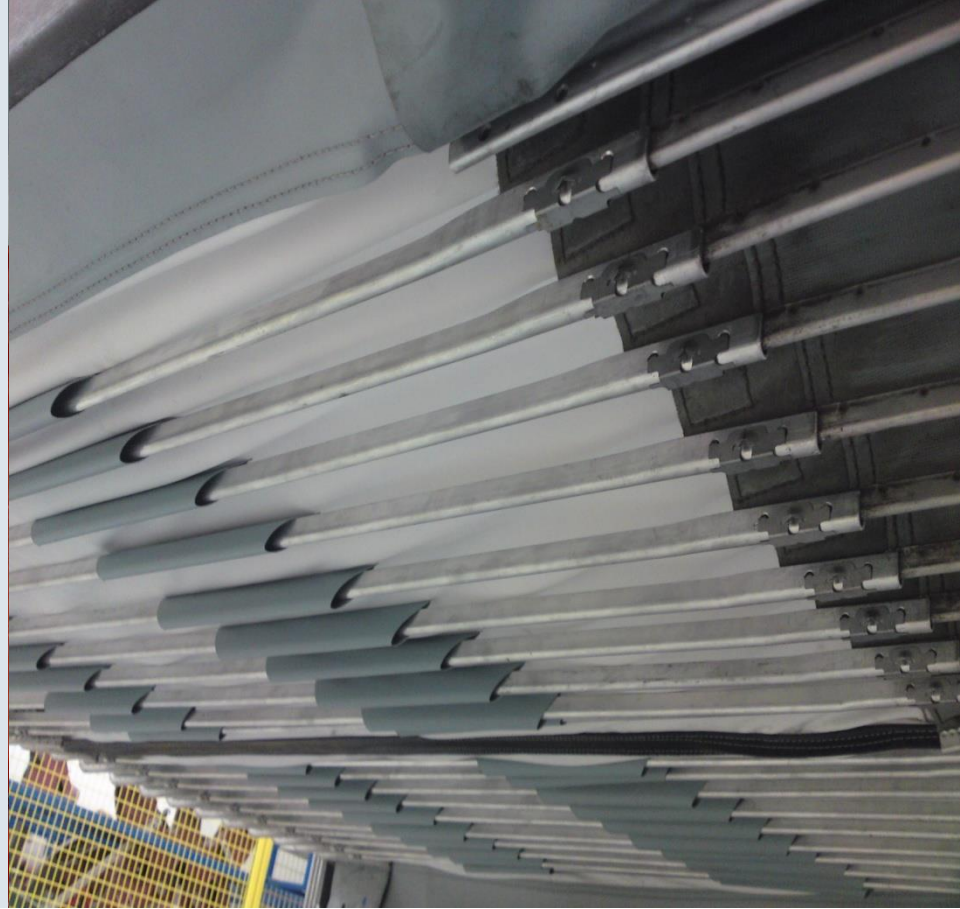


## TYPES OF FOLDING BELLOW FLOORS

HÜBNER's detachable insert floors can be fastened with

- Clips
  - Screws
  - Clamps
  - Bolts
  - Zip fastenings
- and
- Space saving floor clamping profiles



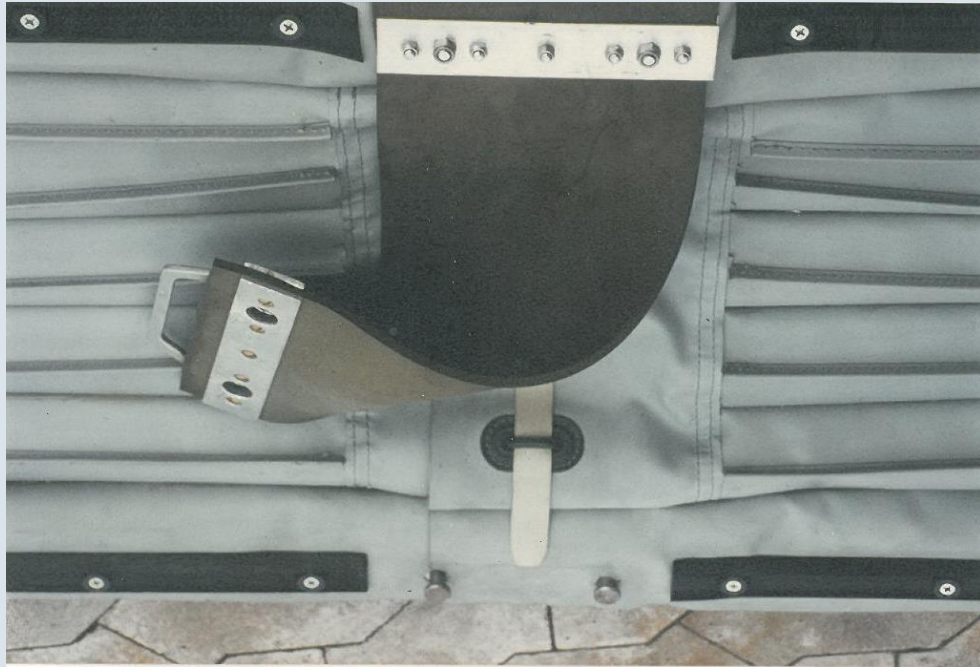


## TYPES OF FOLDING BELLOW FLOORS

Insert floors can be made out of

- T5 fabric or
- Bi-elastic fabric





## TYPES OF FOLDING BELLOW FLOORS

### Belt floor with

- PVC belt
- Belt buckle
- Rubber floor plate or
- Rubber tensioning strap



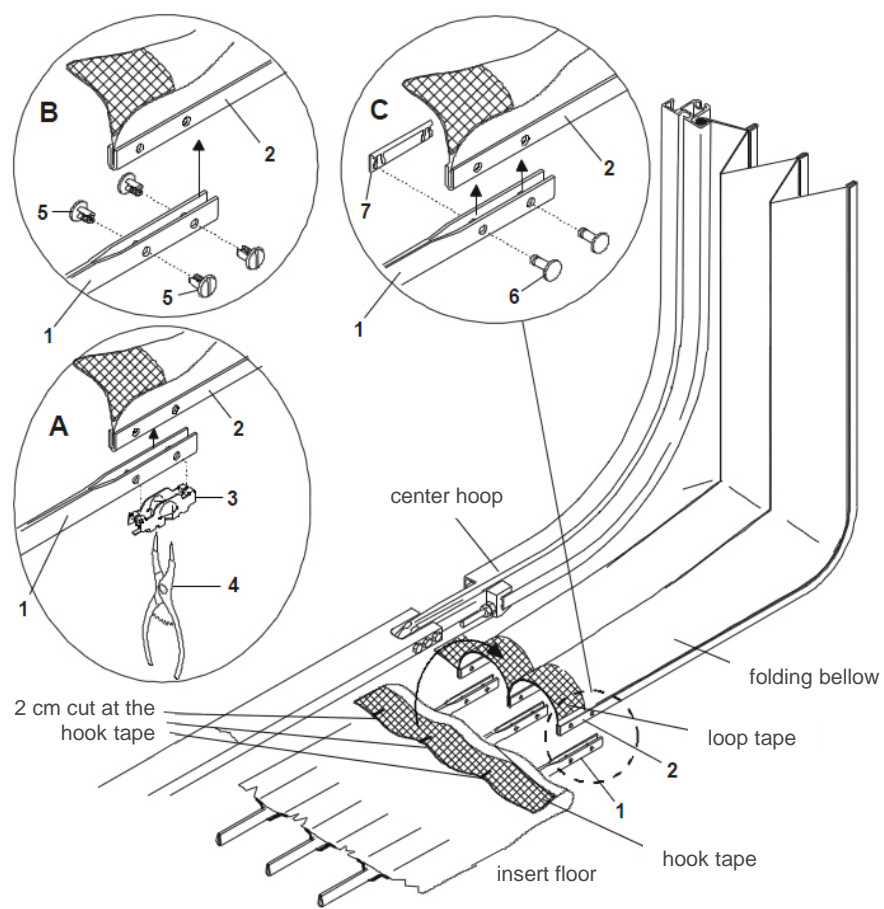


## TYPES OF FOLDING BELLOW FLOORS

### Holding pins

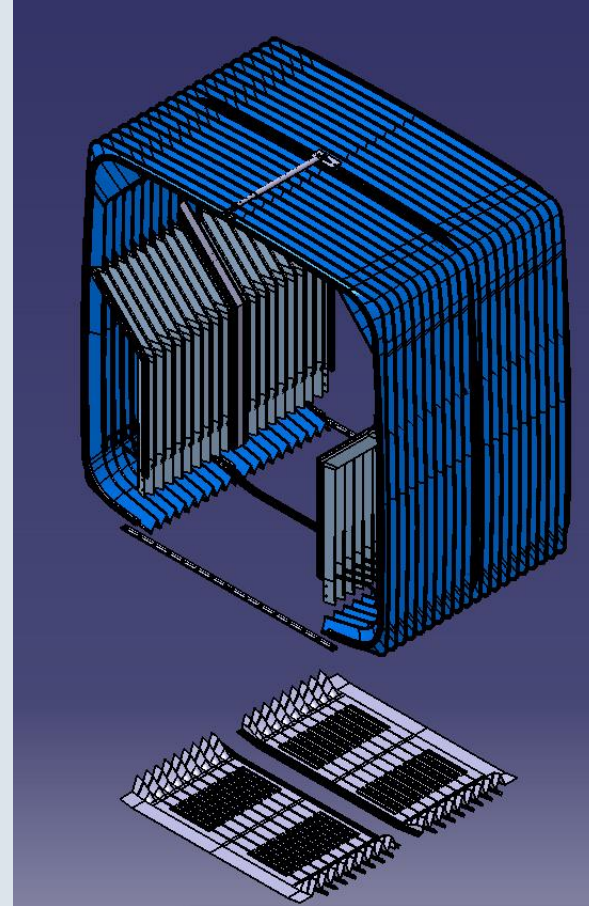
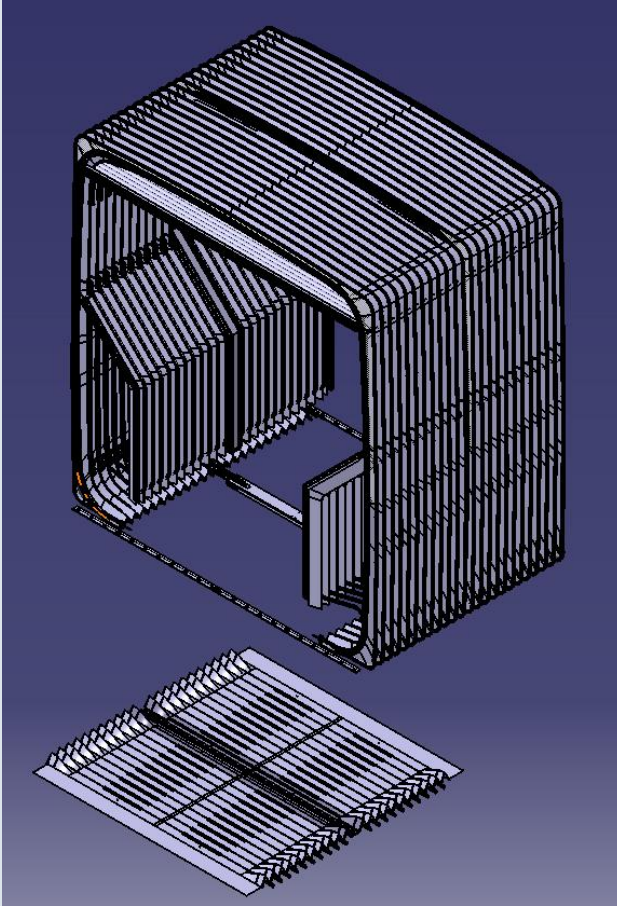
- Screwed
- Welded





## TYPES OF FOLDING BELLOW FLOORS

- Floor clamping profile



## TYPES OF FOLDING BELLOW FLOORS

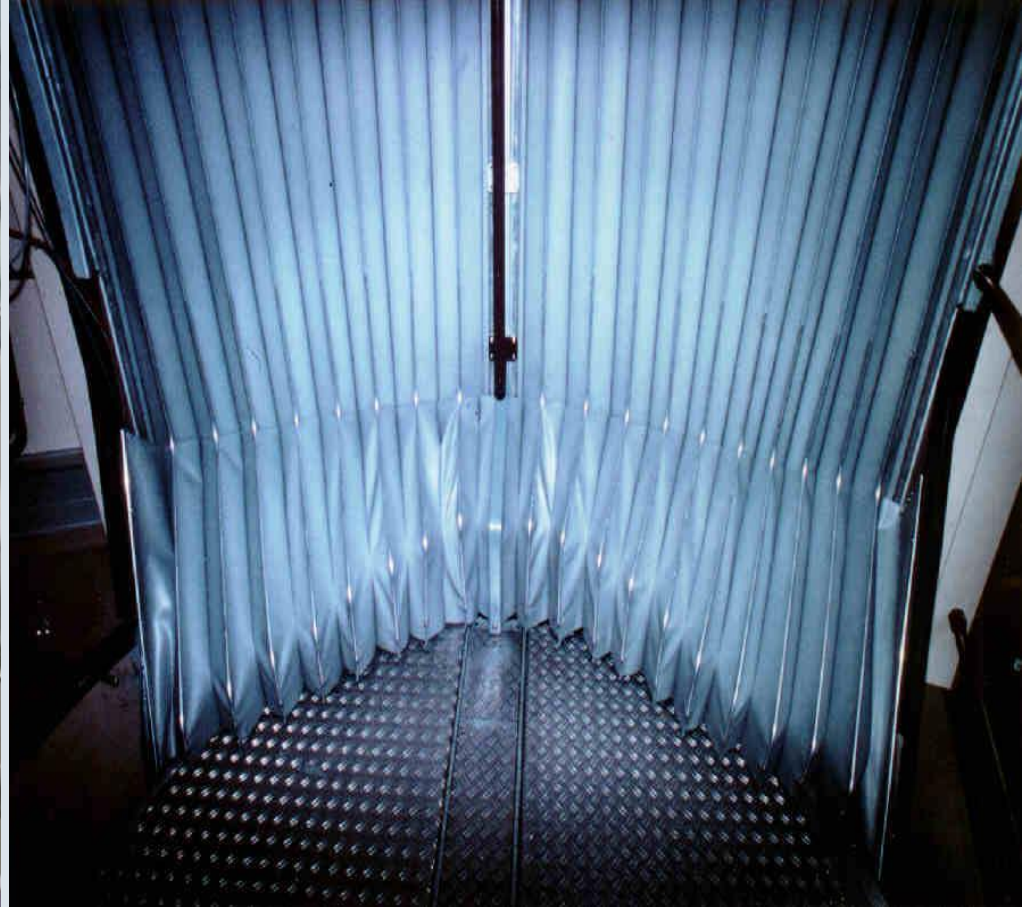
- One piece
- Two piece



## TYPES OF FLOOR COVERINGS

- Bended covering
- Vertical covering
- Angular covering





## TYPES OF FLOOR COVERINGS

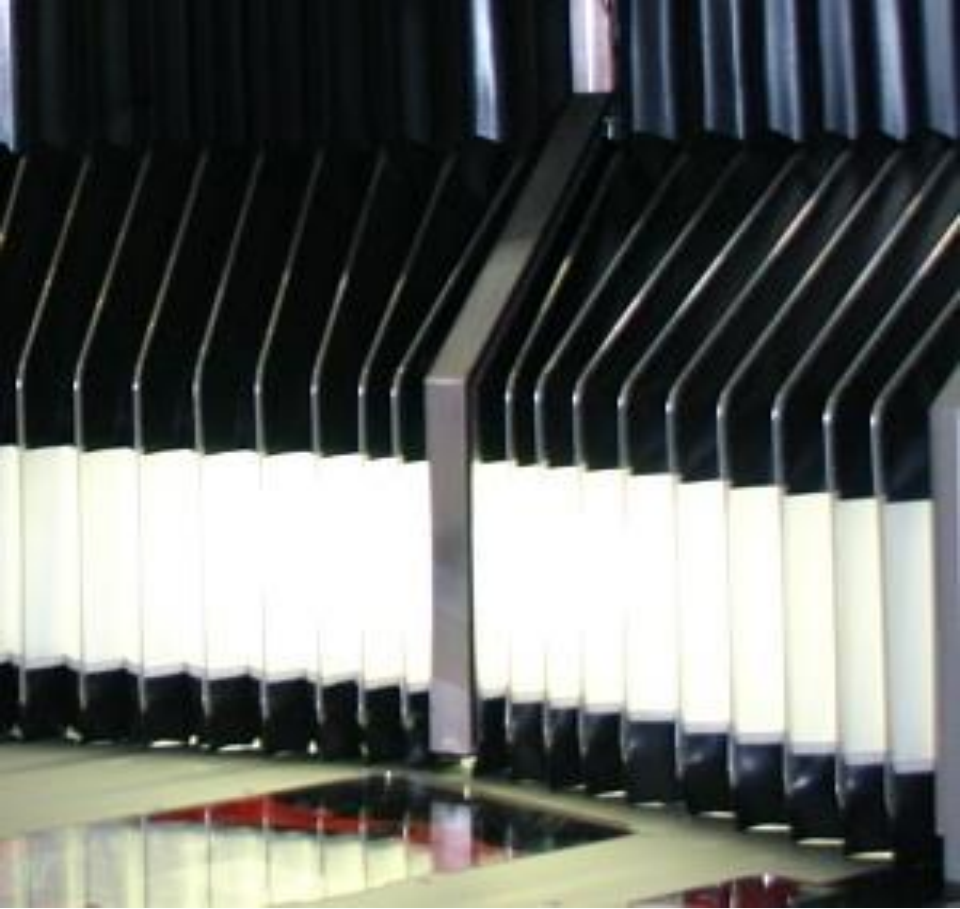
- Lateral covering
- Circular graded covering



## TYPES OF FLOOR COVERINGS

- With energy guiding
- With zip fastening





## TYPES OF FLOOR COVERINGS

- Translucent and illuminated
- Colored





## TYPES OF FLOOR COVERINGS

### Fixation outer bellow

- Permanent
  - Crimped
  - Riveted
- Detachable
  - Cover
  - Insertion system (invisible)
  - Cross profile screwed





## TYPES OF FLOOR COVERINGS

### Fixation bodywork

- Screwed
- Riveted
- Quarter turn-lock fastener
- Clamping profile system
- Rubber profile system





## TYPES OF ROOF COVERINGS

- Corrugation
- Fold
- Zip fastening (if required)





## TYPES OF ROOF COVERINGS

- Colored
- Translucent





Montageanleitung

## TYPES OF ROOF COVERINGS

### Fixation outer bellow

- Permanent
  - Crimped
  - Riveted
- Detachable
  - Cover
  - Insertion system (invisible)
  - Cross profile screwed





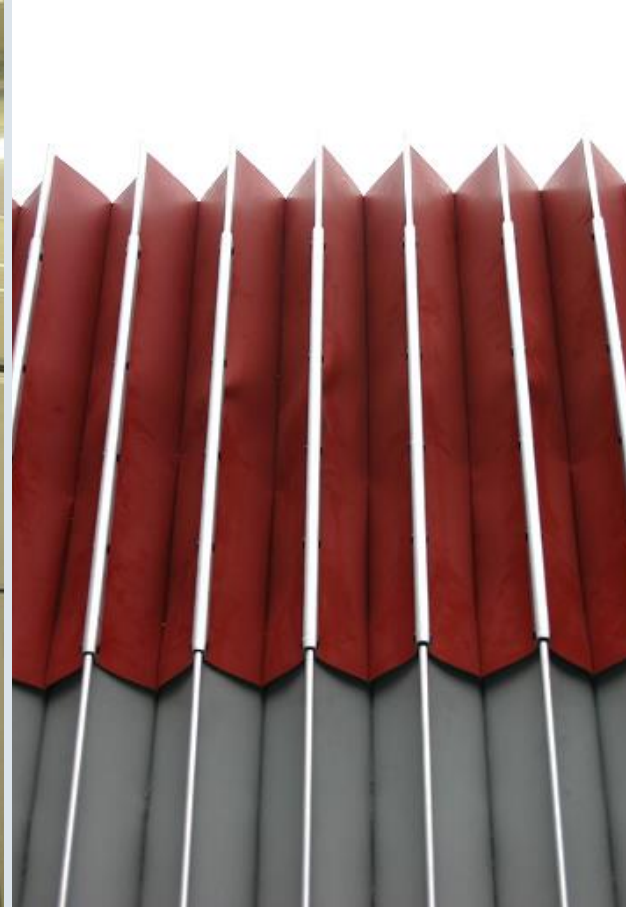
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## TYPES OF ROOF COVERINGS

### Fixation bodywork

- Screwed
- Riveted
- Quarter turn-lock fastener
- Clamping profile system
- Rubber profile system

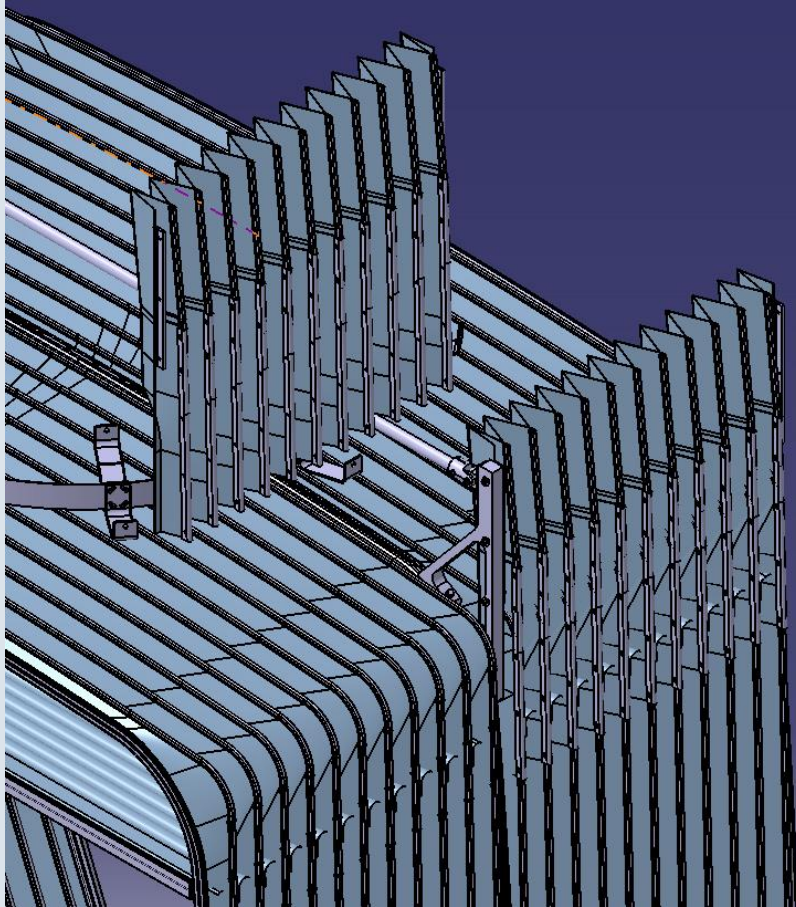




## TYPES OF HEAD COVERINGS

- Contour
- Colored
- Translucent





# TYPES OF HEAD COVERINGS

## Fixation

- Outer bellow
  - Clip
  - Rivet
- Bodywork
  - Screwed
  - Head
  - Suspension frame

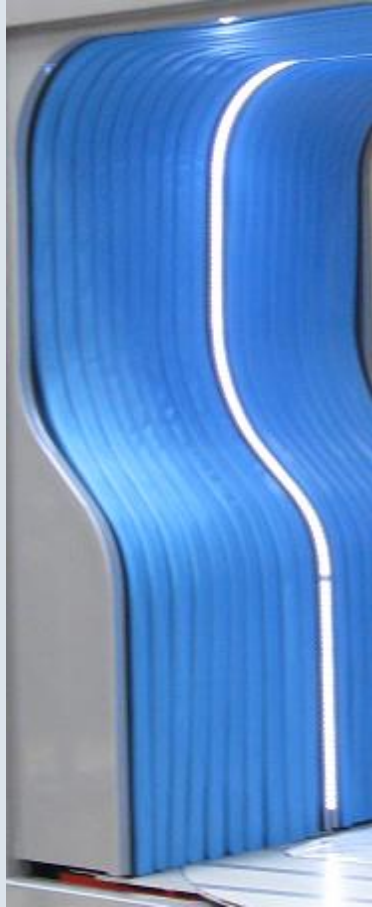




## TYPES OF INTERNAL COVERINGS

- Closed inner bellow
- Seat cover design
- Heated
- Heat insulation



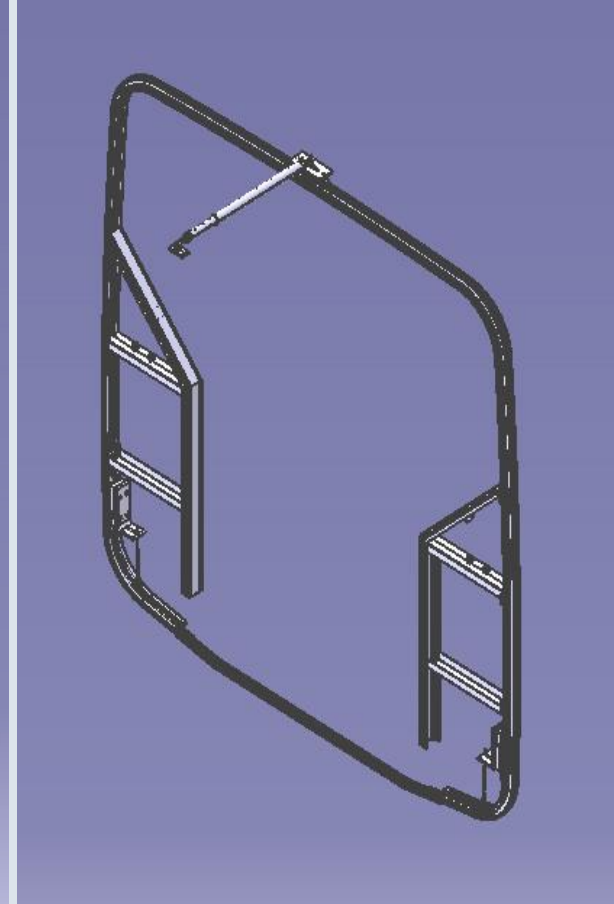
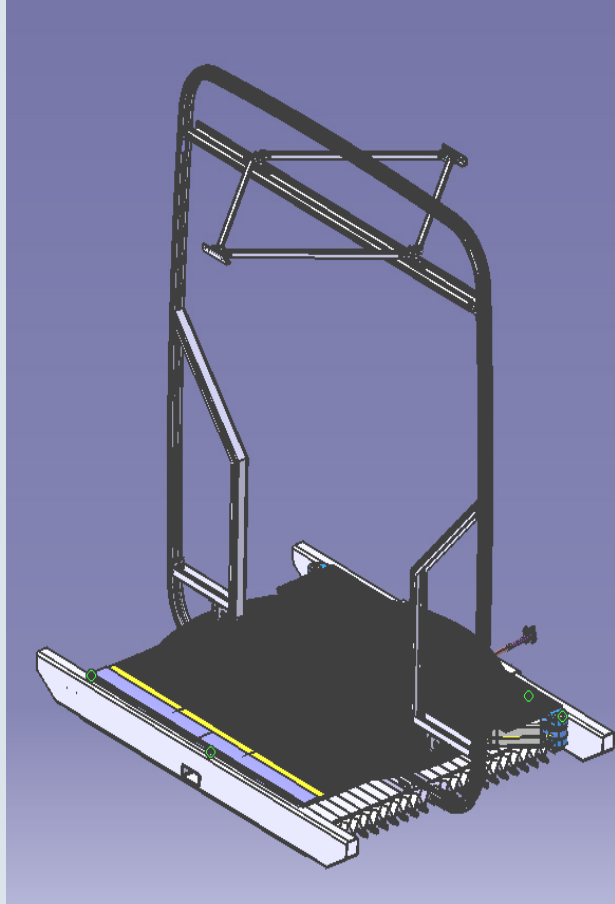
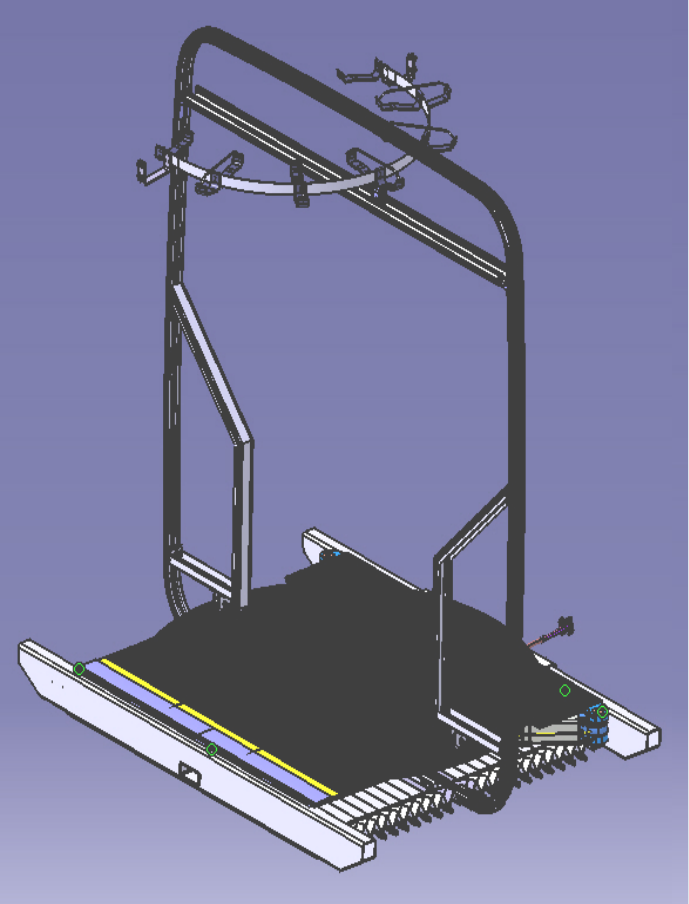


## CENTER HOOP

- LED illumination
- Handrail



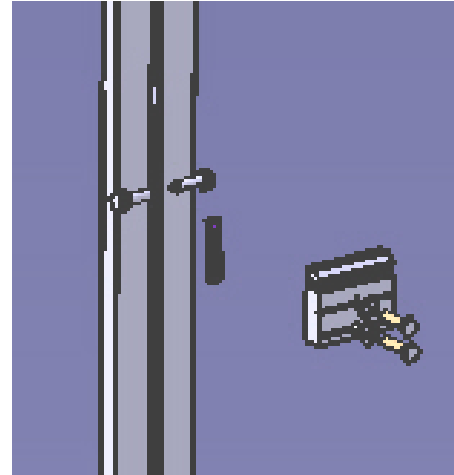
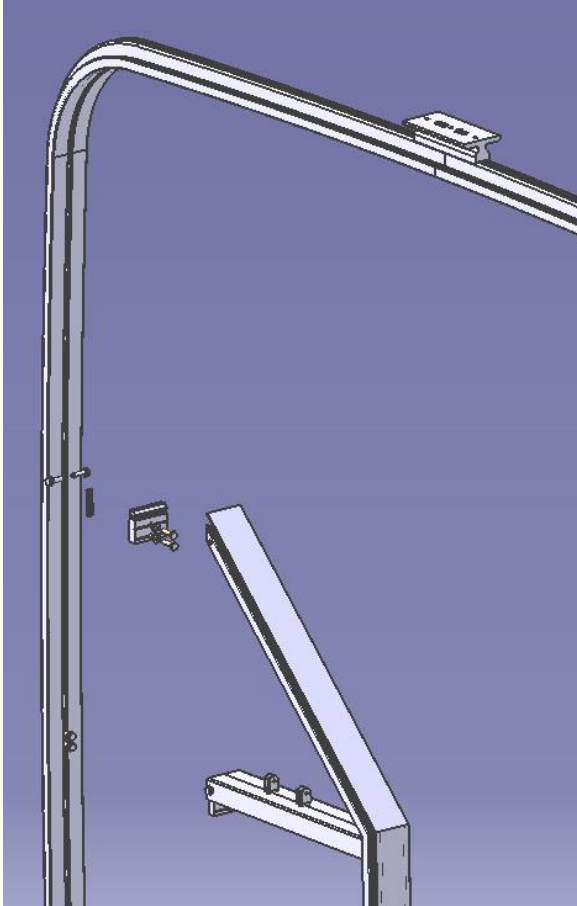




## CENTER HOOP

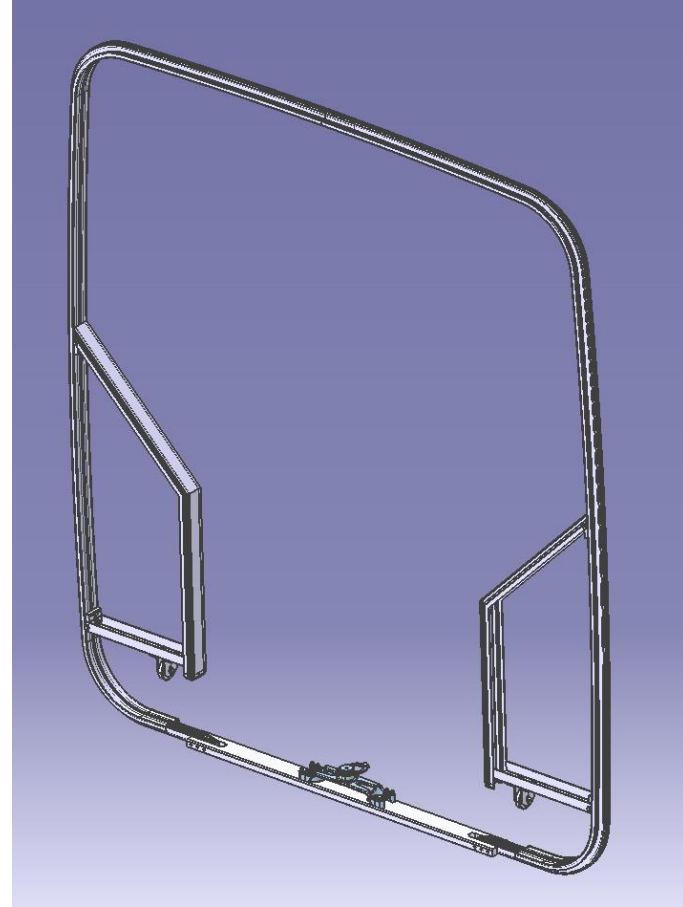
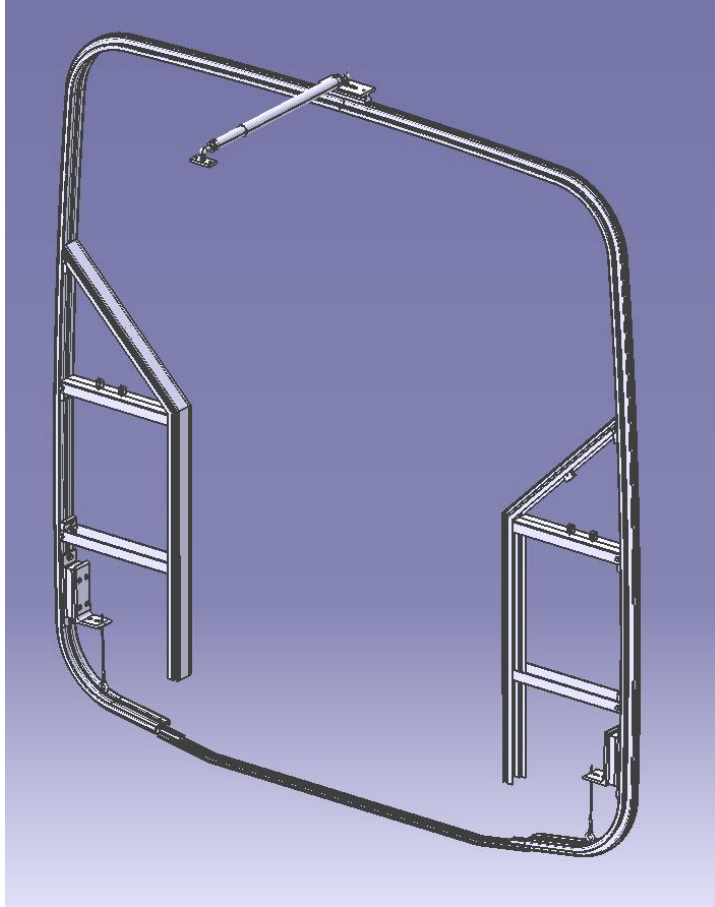
- Integrated energy guiding
- Activation
- Telescope Handrail





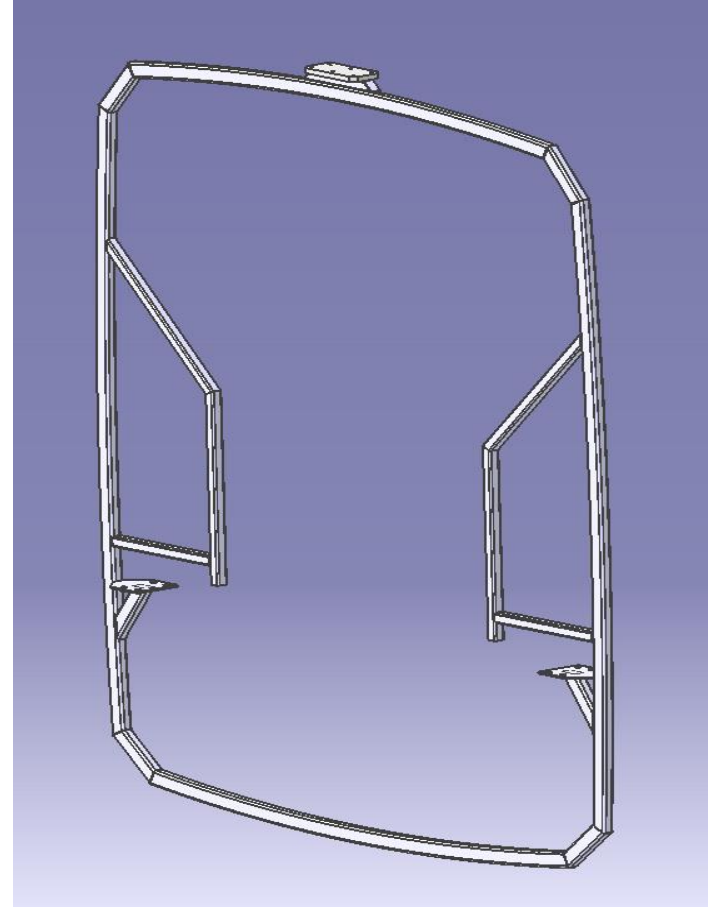
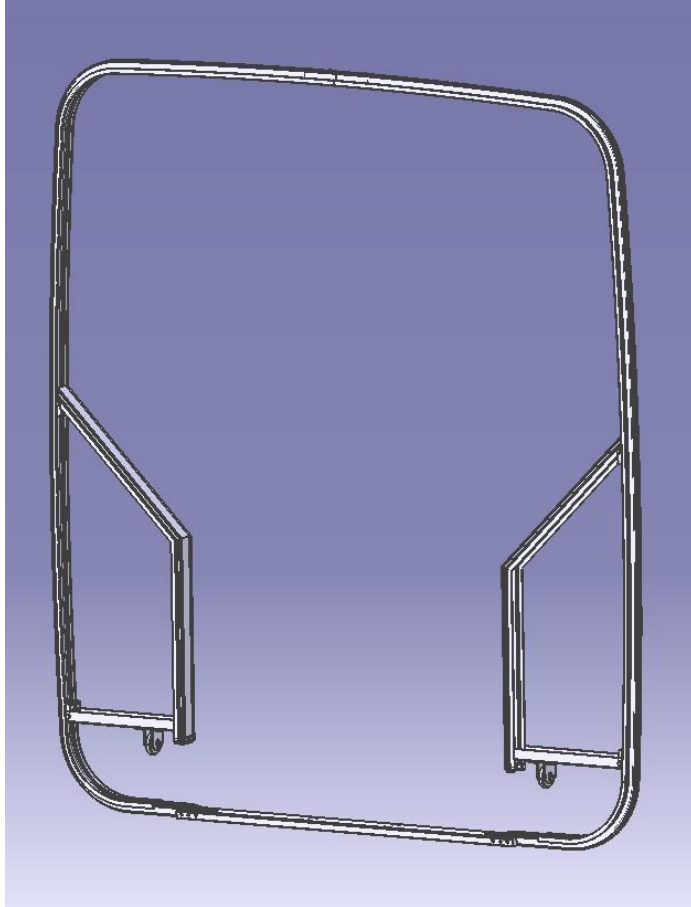
## CENTER HOOP

- Tenon block fastener



## CENTER HOOP

- Hinge system



## CENTER HOOP

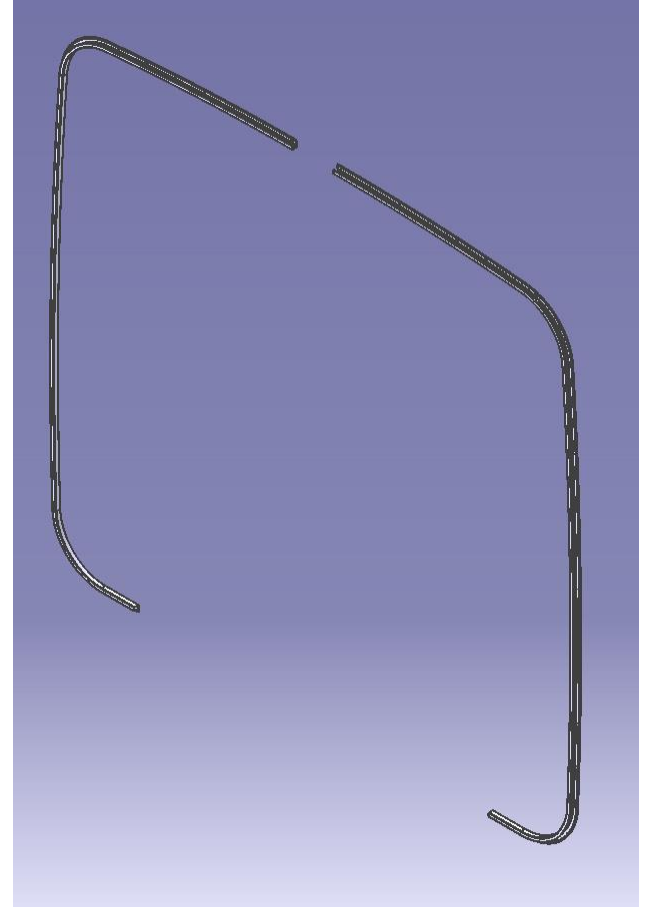
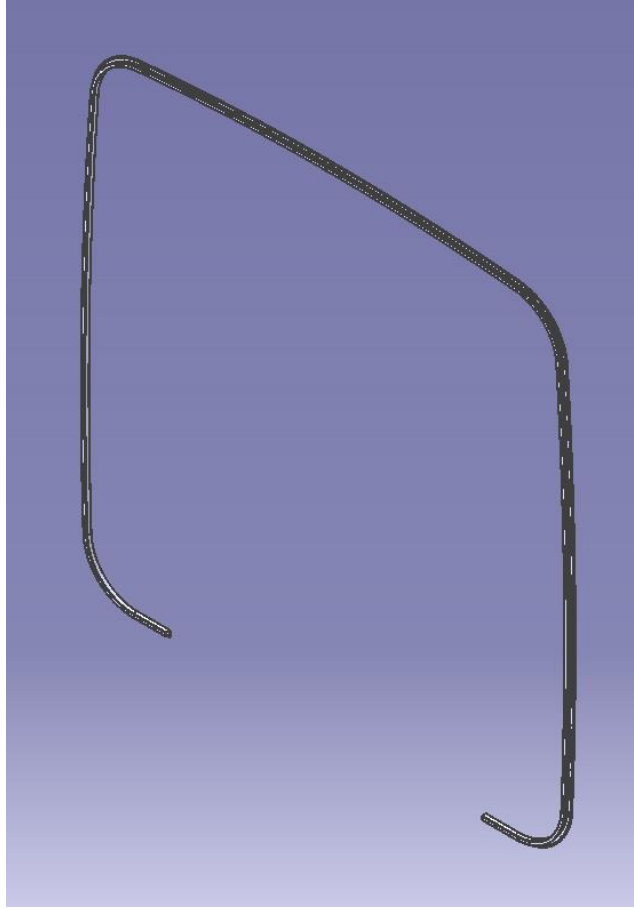
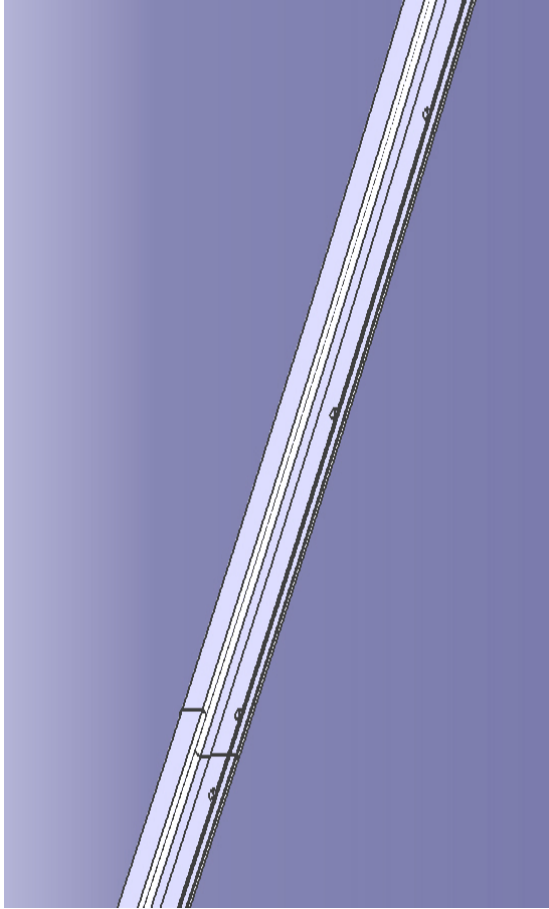
- Aluminum
- Iron steel



## CENTER HOOP

- Connection to articulation
  - Bellow
  - Sideways
- Colored coated
  - Nut covering

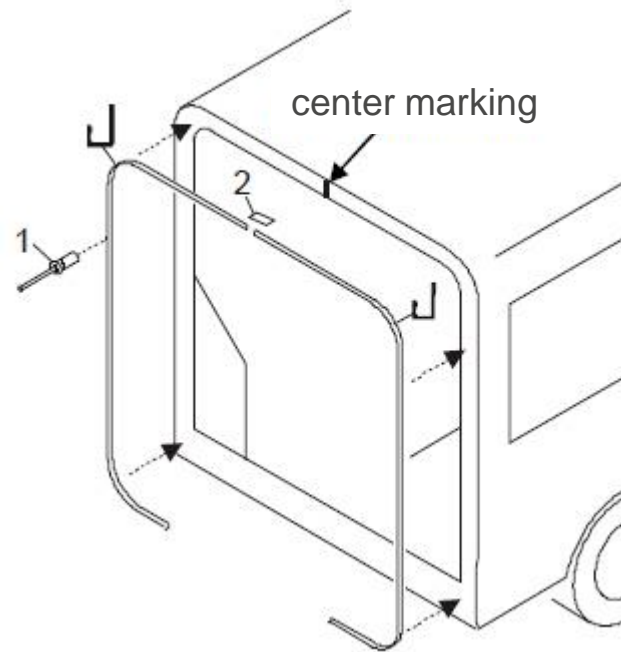
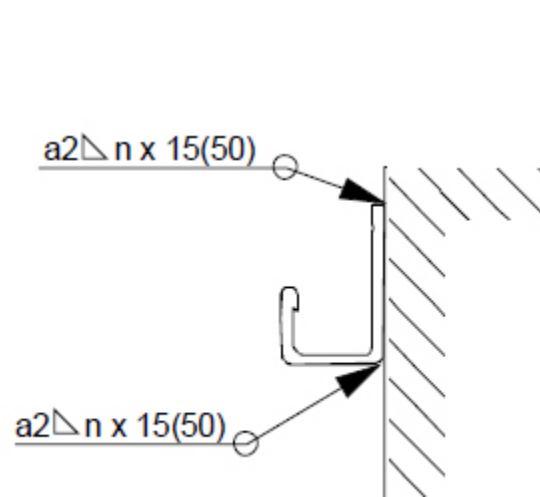




## SUSPENSION FRAME

- Primary drilled
- Multipart
- 3D bended

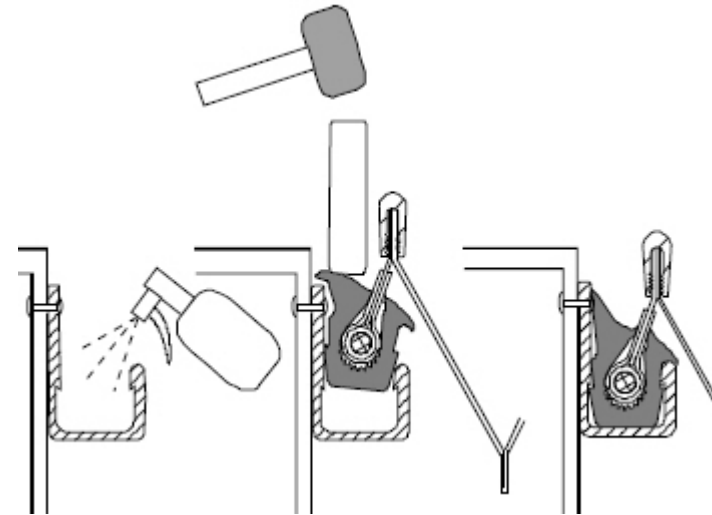
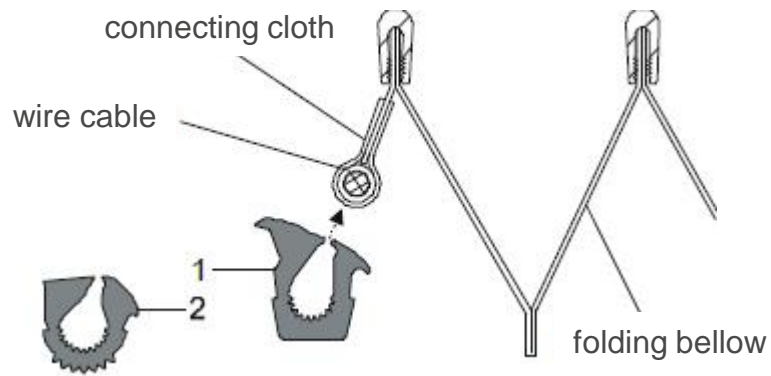




## SUSPENSION FRAME

### Fastening

- Screwed
- Welded
- Riveted

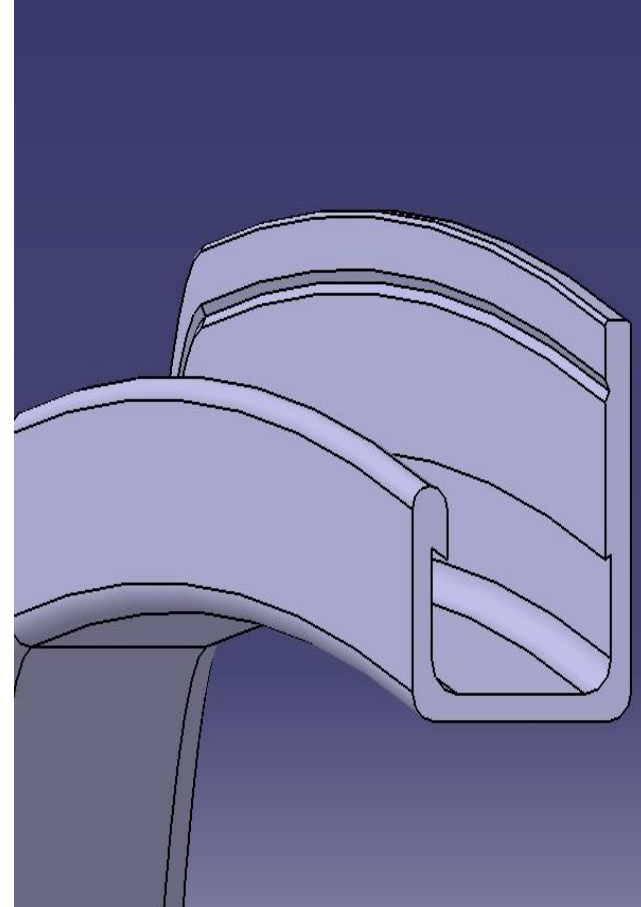
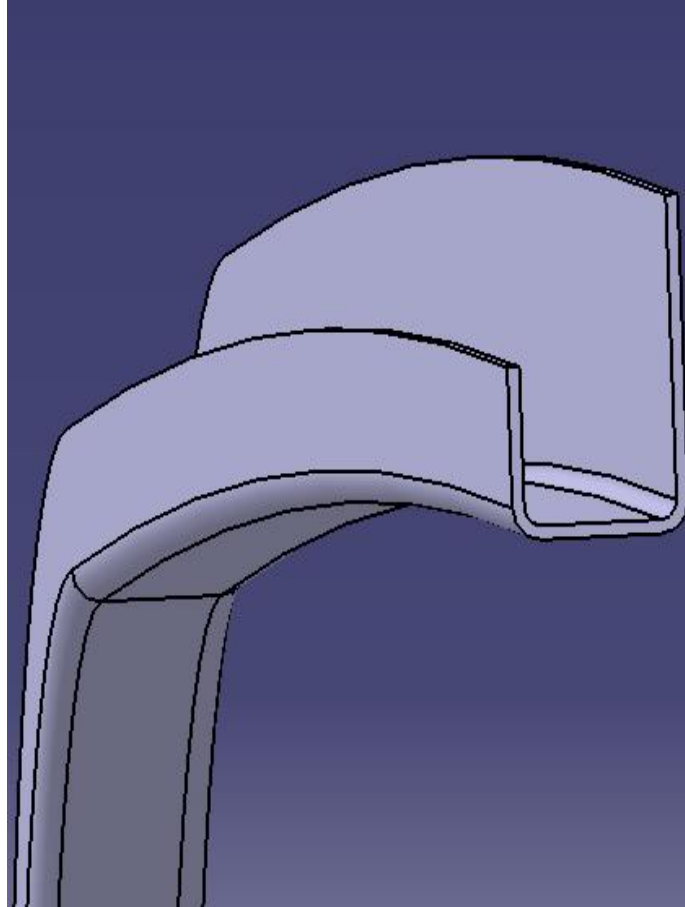


## SUSPENSION FRAME

- Rubber system







## SUSPENSION FRAME

- Stainless steel
- Aluminum
- Steel cast

# COMPLETE SYSTEM IN MOTION

