

CAVA

CAVA 1.32.4 – What's New

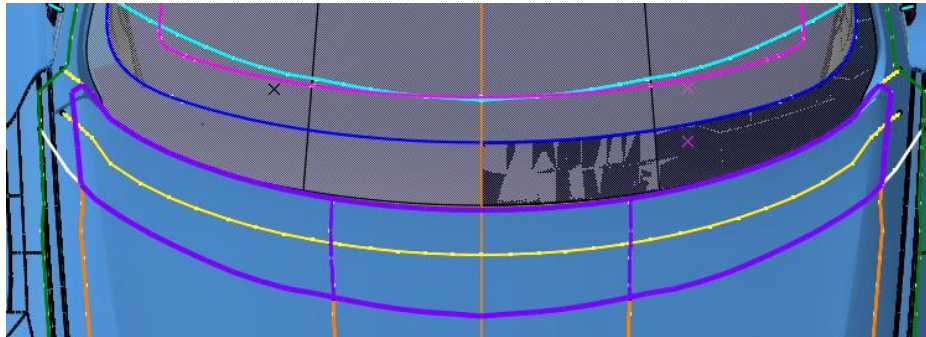
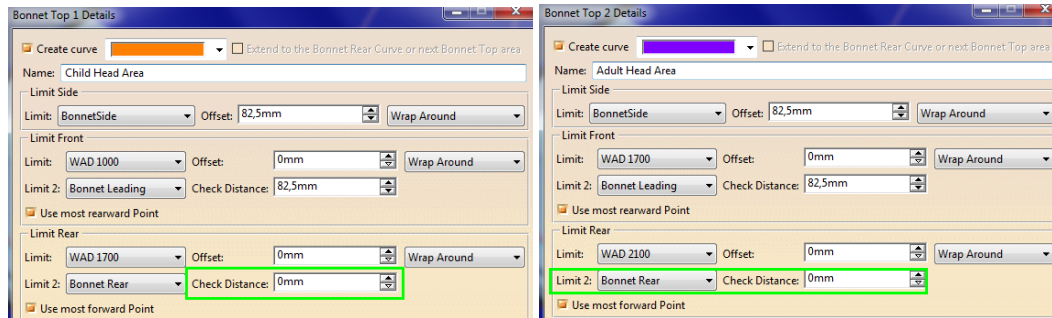
Feb-2021

CAVA 1.32.4 – Safety – Pedestrian Protection



ECE R-127 Rev.3 Changes to rear limit of bonnet top 1 and 2

- Now extending up to BRRL (without offset)



Paragraph 2.16., amend to read:

"2.16. "Child headform bonnet top test area" is an area on the outer surfaces of the front structure. The area is bounded:

- In the front, by a WAD 1,000 or a line 82.5 mm rearward of the bonnet leading edge reference line, whichever is most rearward at a given lateral position,
- At the rear, by a WAD 1,700 or [a line 82.5 mm forward] of the bonnet rear reference line, whichever is most forward at a given lateral position, and
- At each side, by a line 82.5 mm inside the side reference line.

The distance of 82.5 mm is to be set with a flexible tape held tautly along the outer surface of the vehicle."

Paragraph 2.1., amend to read:

"2.1. "Adult headform bonnet top test area" is an area on the outer surfaces of the front structure. The area is bounded:

- In the front, by a wrap around distance (WAD) of 1,700 or a line 82.5 mm rearward of the bonnet leading edge reference line, whichever is most rearward at a given lateral position;
- At the rear, by a WAD 2,100 or [a line 82.5 mm forward] of the bonnet rear reference line, whichever is most forward at a given lateral position, and
- At each side, by a line 82.5 mm inside the side reference line.

The distance of 82.5 mm is to be set with a flexible tape held tautly along the outer surface of the vehicle."

Paragraph 2.10., amend to read:

"2.10. "Bonnet top test area" is composed of the child headform bonnet top test area and the adult headform bonnet top test area as defined in paragraphs 2.1. and 2.16. respectively."

CAVA 1.32.4 – Safety – Pedestrian Protection



ECE R-127 Rev.3

Add Windscreen test area

1. Activate Windscreen test area (right mouse button)
2. Select Windshield, SolidStrip (DLO Curve) and Window Rear Edge

Activate
 Deactivate

	Bonnet Top 1	N/A	<input checked="" type="checkbox"/>	Orange	N/A
	Bonnet Top 2	N/A	<input checked="" type="checkbox"/>	Violet	N/A
	Bumper Test Area	N/A	<input type="checkbox"/>	Brown	N/A
	Cowl Area	N/A	<input checked="" type="checkbox"/>	Red	N/A
	Windscreen Test ...	N/A	<input checked="" type="checkbox"/>	Maqenta	N/A

Input Geometry | Section Planes

A-Pillar Elements | **Solid Strip** | Window Rear Edge | Dashboard

Element	Type
Edge.2	GEOM 1D

Windscreen Test Area De... - [] [X]

2.44.

Create curve [Magenta]

Limits

Side and front Offset: 100mm

Rear Offset: 130mm

Rear Limit 2: WAD 2500

Required Geometry

Windshield Geometry, Solid Strip Geometry, Window Rear Edge Geometry

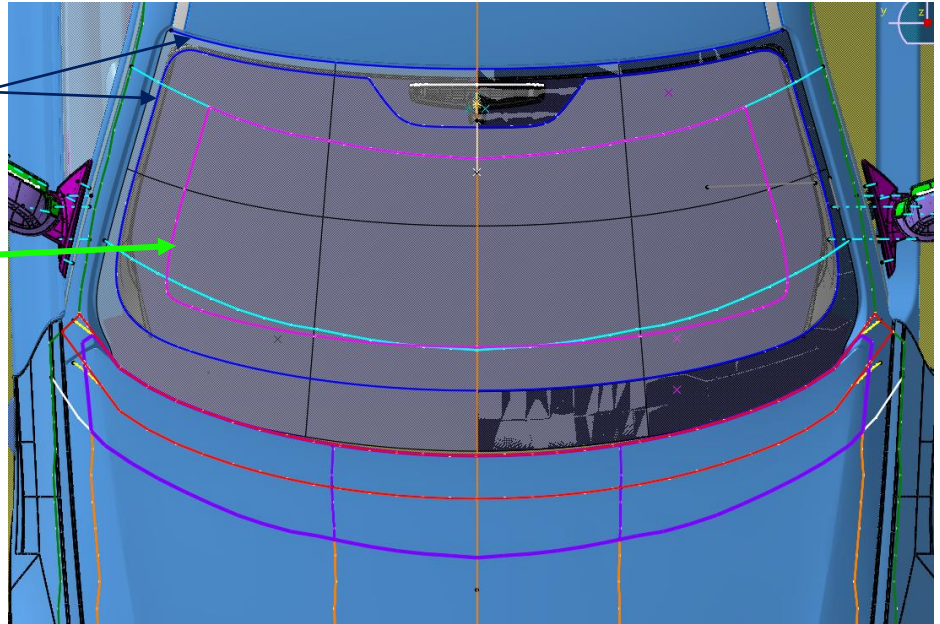
OK Cancel

"Windscreen test area" is an area on the outer surface of the windscreen. It is bounded as follows:

- In the front, by a line [100] mm rearward to the opaque obscuration of the windscreen. In case of absence of the opaque obscuration, the line is measured from the front edge of the windscreen;
- In the rear, by a WAD 2,500 or a line [130] mm forward to the windscreen rear reference line (i.e. rear edge of the windscreen), whichever is more forward at a given lateral position;
- At each side, by a line [100] mm inside the opaque obscuration of the windscreen. In case of absence of the opaque obscuration, the line is measured from the side edge of the windscreen.

For (a) and (c), the distances of [100] mm are to be measured with a flexible tape held tautly along the outer surface of the vehicle at an angle of 90° to the tangent line to the opaque obscuration limit.

For (b), the distance of [130] mm is to be measured with a flexible tape held tautly along the outer surface of the vehicle at an angle of 90° to the tangent line to the rear edge of the windscreen.



CAVA 1.32.4 – Safety – Pedestrian Protection

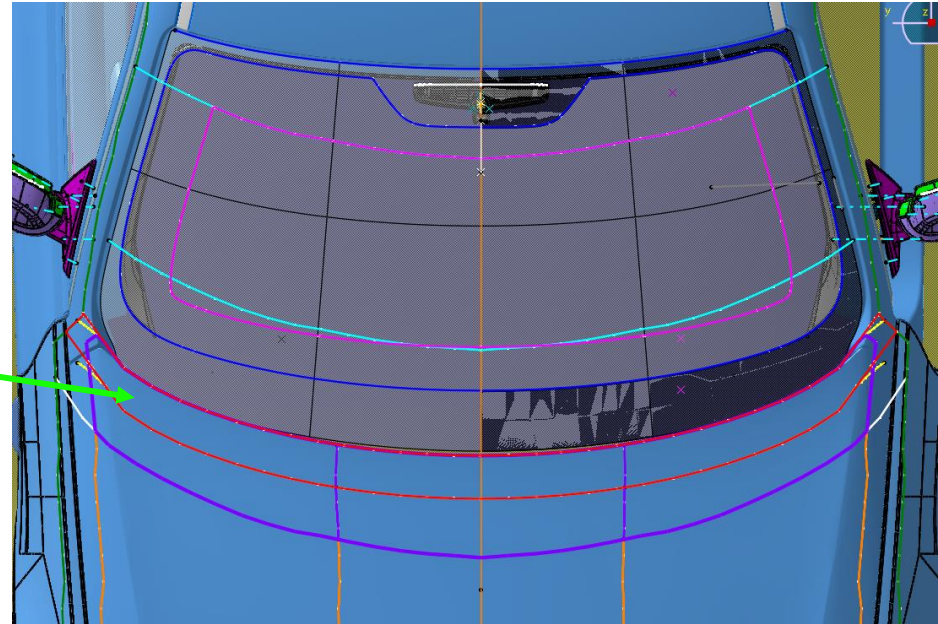


ECE R-127 Rev.3

- Activate cowl area
- Limits:
 - Bonnet rear curve RL (without template)
 - Bonnet rear curve – offset
 - Bonnet side curve

Activate
 Deactivate

	Bonnet Top 1	N/A	<input checked="" type="checkbox"/>	Orange	N/A
	Bonnet Top 2	N/A	<input checked="" type="checkbox"/>	Violet	N/A
	Bumper Test Area	N/A	<input type="checkbox"/>	Brown	N/A
	Cowl Area	N/A	<input checked="" type="checkbox"/>	Red	N/A
	Windscreen Test ...	N/A	<input checked="" type="checkbox"/>	Magenta	N/A



"4.1. Tests shall be made to the front structure within the boundaries as defined in paragraph 2.16. of this Regulation. **Test shall also be made to the windscreen within the boundaries as defined in paragraph 2.44.** For tests on the rear area of the bonnet top, the headform impactor shall not contact the windscreen or A-pillar before impacting the bonnet top. **For tests on the windscreen, the headform impactor shall not directly contact the A-pillars, windscreen header and cowl, except in the case of monitoring testing.**

CAVA 1.32.4 – Defect Fixes

General:

- Fixed incorrect display of colormap in
 - - Pedestrian Protection Offset
 - - Optical Properties
 - - Wiper

Vision Module:

- Feature "Camera Field OF View"
 - - Visualization on selected geometry was not working correctly
- Feature "Mirror"
 - - 2D Viewer - Fixed bug in blocking calculation on mirror glass
 - - 2D Viewer - Blocking calculation did not work when "Cut elements on mirror by contour" was used
 - - 2D Viewer - Function to create a separate CATPart from the 2D View has created an empty part.

OVA Module:

- Feature "Pedal Clearance"
 - - Improved error message with hint for solution when heel point does not fit to the Acc. Pedal geometry

Manikin Module:

- Feature "Head Position Contour"
 - - Improved warning and behavior if no heel point defined in base data

Safety Module:

- Feature "Minimum Radius"
 - - HI Zone is now created correctly when switching form ECE to FMVSS standard and vice versa
 - - Steering Wheel and Windshield act as obstruction if additionally marked as obstruction type

CAVA 1.32.4 – New and changed standards

Safety Module:

PedestrianProtection.xml:

New Standard “ECE R-127 Rev.3”

- - added WAD2500 curve
- - added Windshield Test area and Cowl Area
- - changed rear limit check distance to BRRL of Bonnet Top 1 and 2

OVA Module:

ChildProtection.xml

- - Added new standard "AUS ADR 34 rev.03"

Vision Module:

Mirror.xml.truck (inactive, in customer folder)

Added Standards “Truck ECE-R46 rev. 6” and “AIS-002 rev. 1”:

- - Added allowed total coverage values to ECE-R 46 truck standards
- - Added class II and III mirrors with near and far field on the road.
- - Required coverage calculated on Near field only.
- - Added class II and III mirror on the wall

CAVA 1.32.4 – New and changed standards

Changes ECE R-127 - Rev.03 compared to ECE R-127 – Rev.02:

```
<standard name="ECE R-127 - Rev.03" loading="Empty weight EG + co-driver">
<description>This is a description to the standard</description>
<category name="default" CuttingStep="50mm" WrapAroundUseWindshield="true">
  <curve type="UpperBumper" angle="20deg" length="700mm" tangent_selection="highest" use_upper_end="true"/>
  <curve type="LowerBumper" angle="25deg" length="700mm" tangent_selection="highest"/>
  <curve type="CornerOfBumper" angle="60deg" tangent_selection="highest" use_left="true" use_right="true" is_gaug
  <curve type="BonnetLeadingEdge" angle="50deg" length="1000mm" offset="600mm" tangent_selection="highest" use_lo
  <curve type="BonnetSide" angle="45deg" length="3000mm" offset="0mm" tangent_selection="highest" use_left="true"
  <curve type="WrapAround1" length="1000mm" alias="WAD 1000"/>
  <curve type="WrapAround2" length="1700mm" alias="WAD 1700"/>
  <curve type="WrapAround3" length="2100mm" alias="WAD 2100"/>
  <curve type="WrapAround4" length="2500mm" alias="WAD 2500"/>
  <curve type="BonnetRear" radiusLower="82.5mm" radiusUpper="82.5mm" threshold="5000mm" curve_offset="82.5mm" cur
  <curve type="CowlArea"/>
  <bumperTestArea sideOffset="42mm"/>
  <windscreenTestArea sideOffset="100mm" rearOffset="130mm" rearLimit2="WrapAround4"/>
  <bonnetRearTemplate startRadius="100mm" step="20mm" />
  <bonnetTop1 name="Child Head Area" splitType="ECE" splitM="3" splitN="1" detail="false">
    <side limit="BonnetSide" offset="82.5mm"/>
    <front limit="WrapAround1" checkDist="82.5mm" limit2="BonnetLeading" rearwardFrontCurveCalculation="true"/>
    <rear limit="WrapAround2" checkDist="0.0mm" limit2="BonnetRear" forwardRearCurveCalculation="true"/>
  </bonnetTop1>
  <bonnetTop2 name="Adult Head Area" splitType="ECE" splitM="3" splitN="1" detail="false">
    <side limit="BonnetSide" offset="82.5mm"/>
    <front limit="WrapAround2" checkDist="82.5mm" limit2="BonnetLeading" rearwardFrontCurveCalculation="true"/>
    <rear limit="WrapAround3" checkDist="0.0mm" limit2="BonnetRear" forwardRearCurveCalculation="true"/>
  </bonnetTop2>
</category>
</standard>
```