Redesign of 1L plastic milk bottle

Appendix

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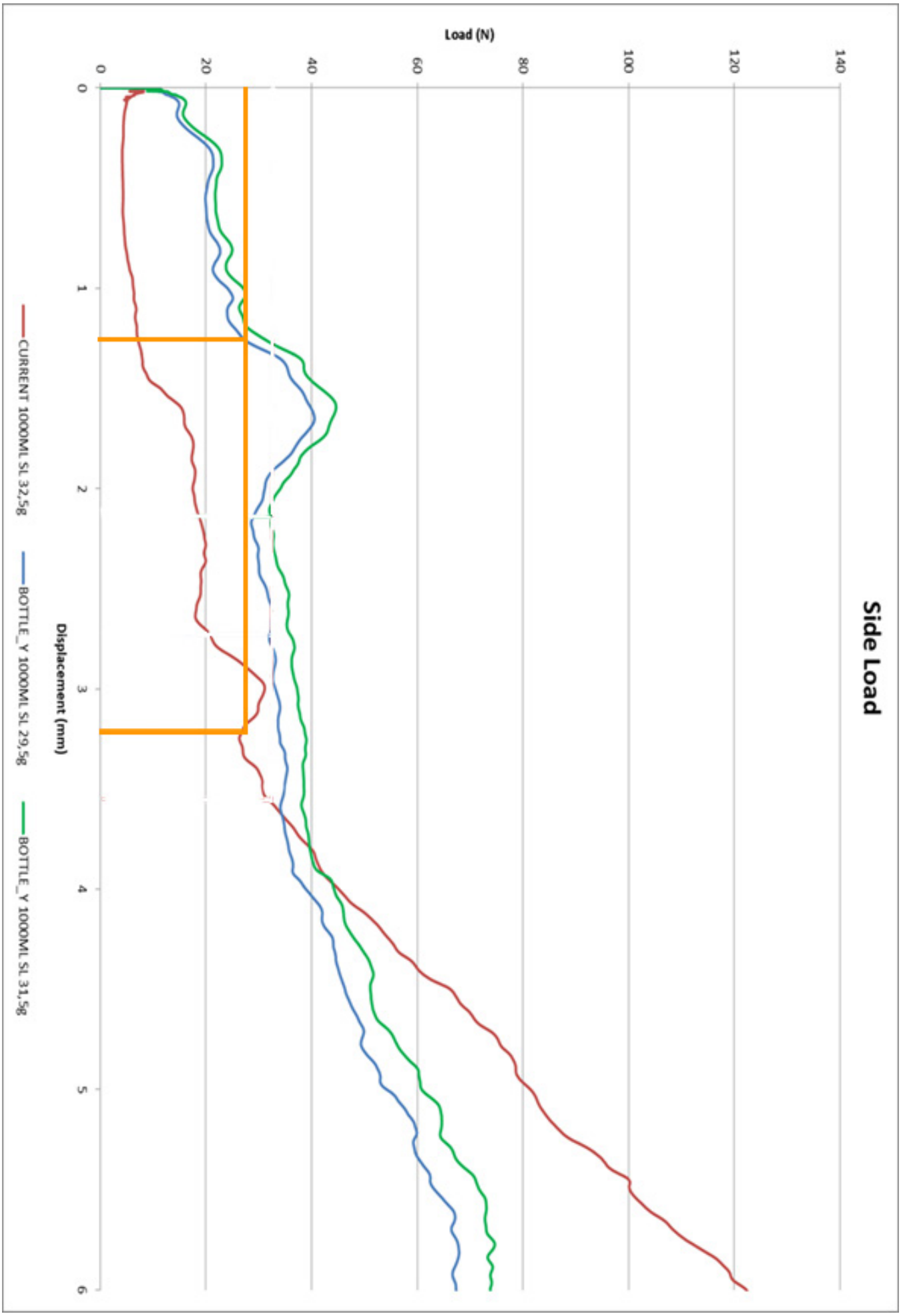
5th of june 2015
This report remains confidential until june 2020

Contents:

FrieslandCampina

Appendix 2.1: Graph side load FEA Logoplaste



Top-load - Single bottles with overhang

Bottle nr.1 (S1)

Brand	Campina
Shape	Squareish
Height with cap	244mm
Diameter	80x80mm
Empty weight	32.4 grams

Test:

Overhang	20mm	10mm	7.5mm	5mm	0mm
Max. top-load (N)	484	492	550	588	658
1st failure point	Waist	Waist	Waist	Waist	Waist
2nd failure point	Bottom	Bottom	Neck	Neck	Neck
3th failure point	Neck	Neck			
Comments			Neck inside		
Percentage of 0mm	73,6%	74,8%	83,6%	89,3%	100,0%

Bottle nr.1 (S2)

Brand	Campina
Shape	Squareish
Height with cap	244mm
Diameter	80x80mm
Empty weight	32.4 grams

Test:

Overhang	20mm	10mm	7.5mm	5mm	0mm
Max. top-load (N)	493	466	588	654	667
1st failure point	Bottom	Bottom	Bottom	Waist	Waist
2nd failure point	Waist	Waist	Waist	Neck	Neck
3th failure point	Neck	Neck	Neck		
Comments		*Weak bottle*			
Percentage of 0mm	73,9%	69,9%	88,0%	98,1%	100,0%

Campina - 2 bottles in shrink foil

Brand	Campina
Shape	Squareish
Height with cap	244mm
Diameter	80x80mm
Empty weight	32.4 grams

Test:

Overhang	20mm	15mm	10mm	5mm	0mm
Max. top-load (N)	692	-	800	-	878
1st failure point	Bottom	-	Waist	-	Waist
2nd failure point	Waist	-	Neck	-	Neck
3th failure point	Neck	-		-	
Comments		-		-	
Percentage of 0mm	78,8%	-	91,1%	-	100,0%

Bottle nr. 2

Brand	Delhaize
Shape	Round
Height with cap	247.5mm
Diameter	80.3mm
Empty weight	32.7 grams

Test:

Overhang	20mm	10mm	7.5mm	5mm	0mm
Max. top-load (N)	455	480	492	560	587
1st failure point	Bottom	Bottom	Bottom	Bottom	Bottom
2nd failure point	Waist	Waist	Waist	Neck	Neck
3th failure point	Neck	Neck	Neck	Waist	Waist
Comments		Already overhung?			
Percentage of 0mm	77,5%	81,8%	83,8%	95,4%	100,0%

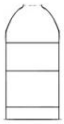
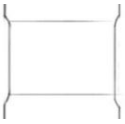
Bottle nr.3

Brand	Boni Selection
Shape	Round
Height with cap	247.5mm
Diameter	80.3mm
Empty weight	32.7 grams

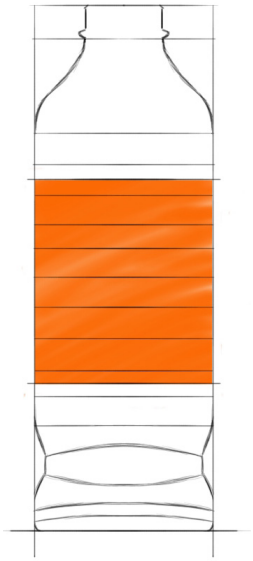
Test:

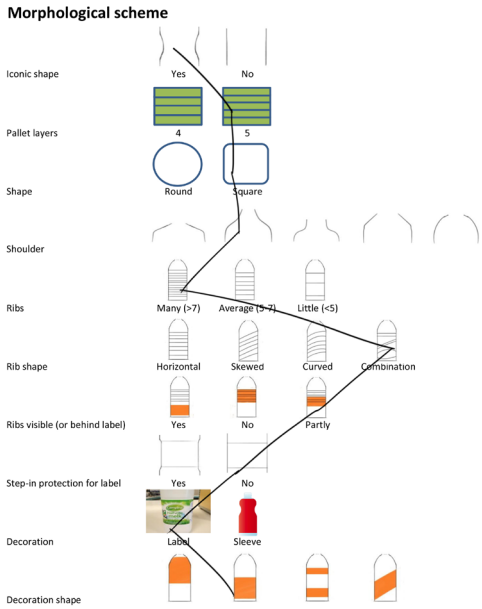
Overhang	20mm	15mm	10mm	10mm	5mm	0mm
Max. top-load (N)	442	477	500	530	558	569
1st failure point	Bottom	Bottom	Bottom	Bottom	Botom	Bottom
2nd failure point	Waist	Waist	Waist	Waist	Neck	Neck
3th failure point	Neck	Neck	Neck	Neck	Waist	Waist
Comments			Parting-l parallel	Parting-l on edge		
Percentage of 0mm	77,6%	83,8%	87,8%	93,2%	98,1%	100,0%

Morphological scheme

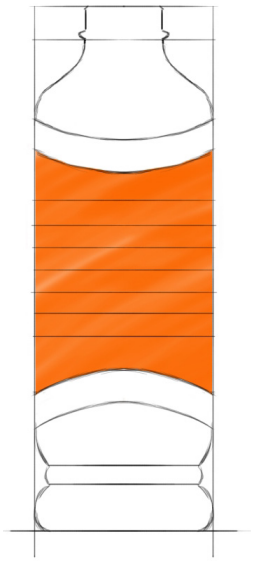
Iconic shape	 Yes	 No
Pallet layers	 4	 5
Shape	 Round	 Square
Shoulder		
Ribs	 Many (>7)	 Average (5-7)	 Little (<5)
Rib shape	 Horizontal	 Skewed	 Curved	 Combination
Ribs visible (or behind label)	 Yes	 No	 Partly
Step-in protection for label	 Yes	 No
Decoration	 Label	 Sleeve
Decoration shape				

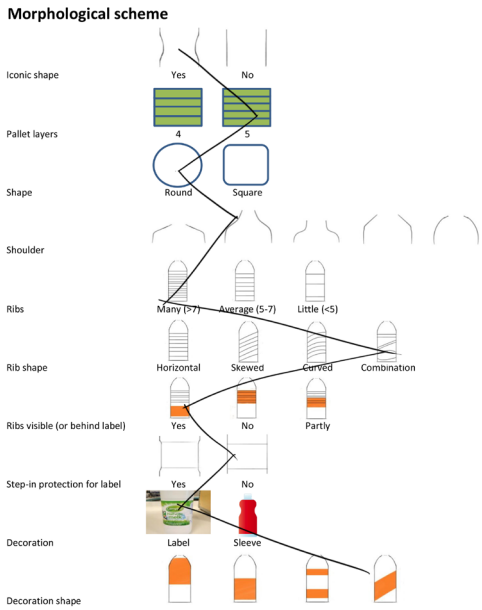
Appendix 3.2: Ideas category: Iconic shape - family



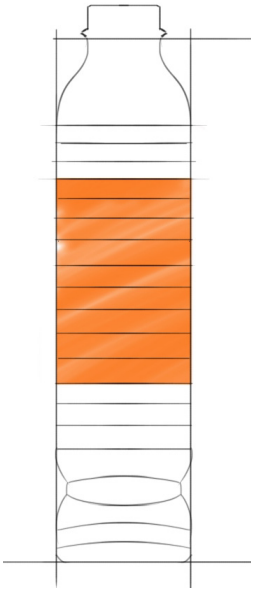


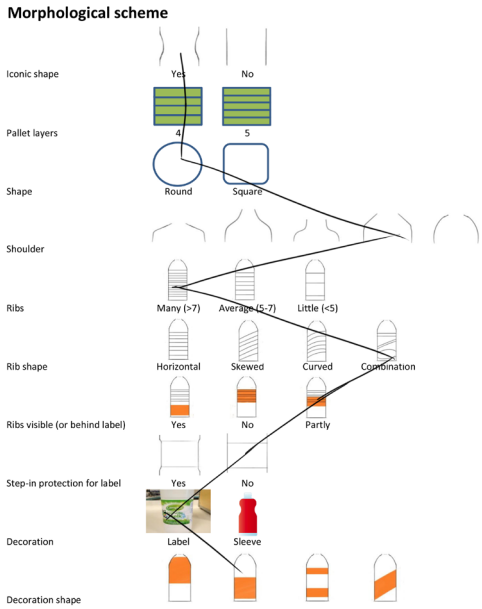
1)
The first idea in the family shape is a square version of the already designed bottle. The silhouette of the bottle is similar as for example the other bottles in the HDPE family, only the shape is square instead of round. This makes less empty space in a six-pack, so the bottle can be smaller than the round version. This is a good alternative for if the 82,6mm bottle turns out not to be sufficient but the family shape will still be needed to be kept.





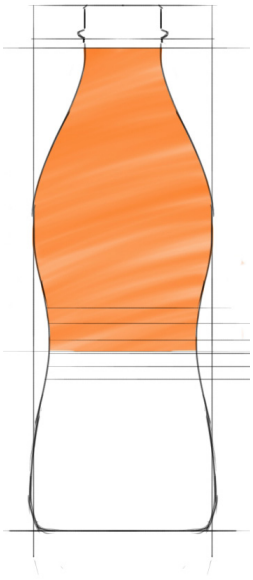
2)
The next idea isn't actually the same as the iconic family shape, however it is based on the family shape. It is more round and has a different organization of the ribs. The curved ribs aren't in the narrowing but around the label area. In the narrowing are straight ribs and no ribs are placed beneath the narrowing. Because the bottle isn't actually according to the shape of the other HDPE bottles but based on that shape, this may not be the best option to go for. If turns out that both the 82,6mm round and the square version of the bottle are not sufficient, this may be an alternative which looks a bit like the rest but

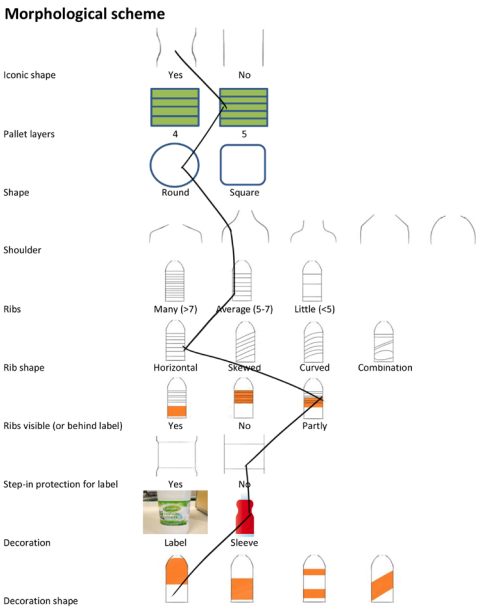




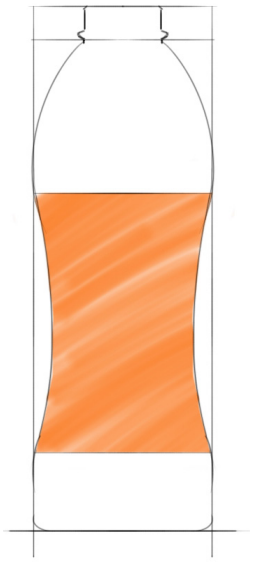
3)
The next bottle is already according to the shape of the other family bottles, but this one is based on four layers on a pallet instead of five. This makes the bottle higher and smaller than the versions based on 5 layers on a pallet.
Because of the higher bottle with the smaller width, the bottle looks very different than the 'normal' version. This makes the bottle doesn't look like a milk bottle, and is not appealing. Therefore this may not be a good option to develop.

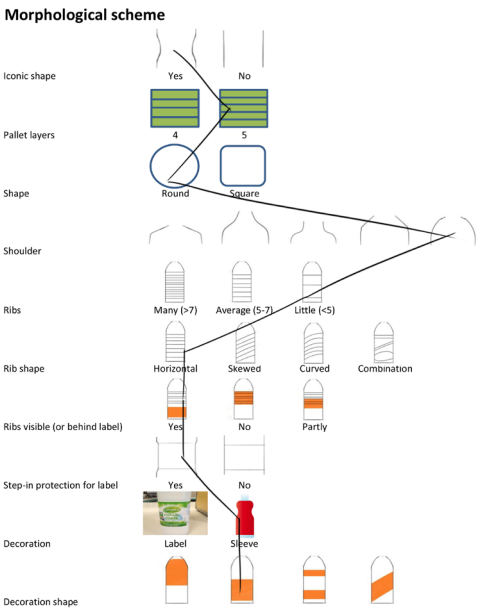
Appendix 3.3: Ideas category: Iconic shape - non family



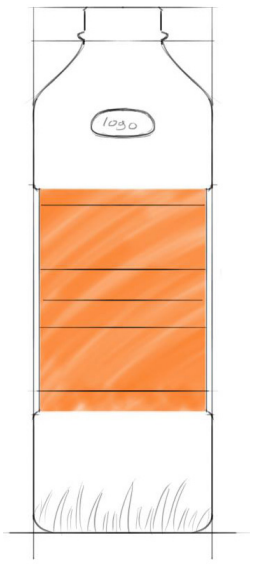


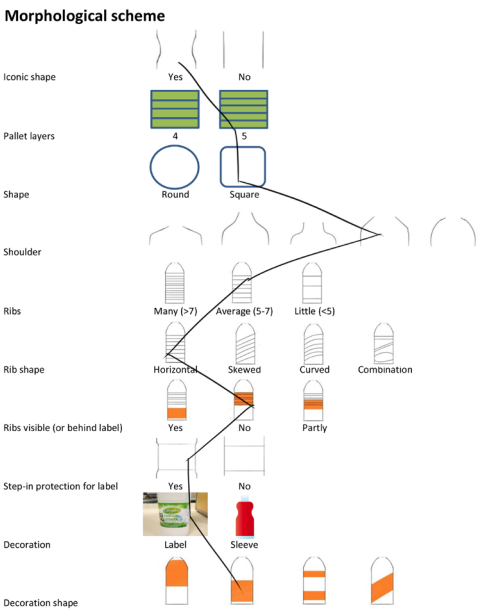
1)
The next idea is a rounded bottle. The bottle is round in shape and in silhouette. This makes the bottle iconic, but also not looks like a milk bottle. Milk bottles are straighter; the amount of curvature is this bottle is too high compared to other milk bottles. Therefore this idea is not a good option to further develop as a concept.



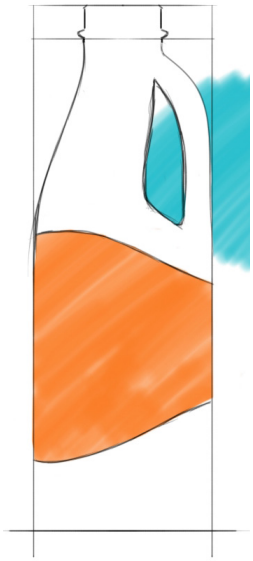


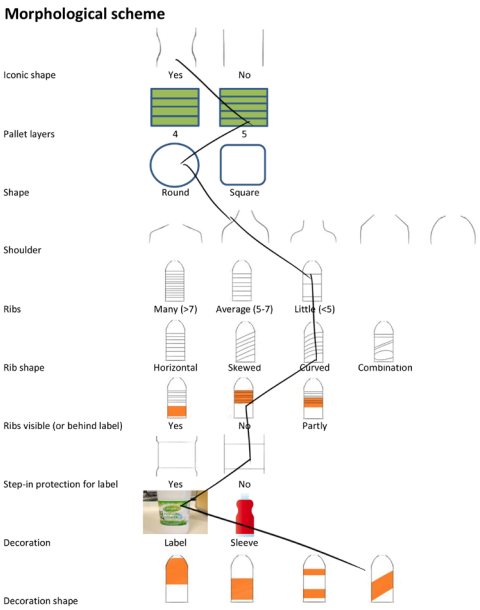
2)
The next idea also is a curved design. It is more straight than idea 5, and might look a bit like a milk bottle. Although at this idea it looks like the bottle is being squeezed in the middle which doesn't give a strong perception, what is important for milk. Therefore this idea is not suitable for further development.



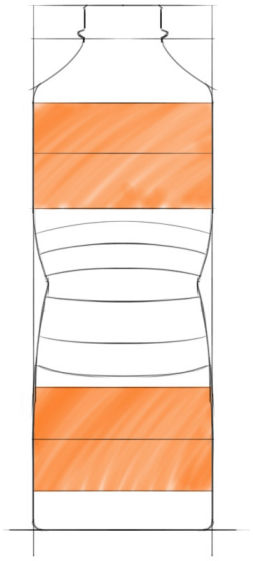


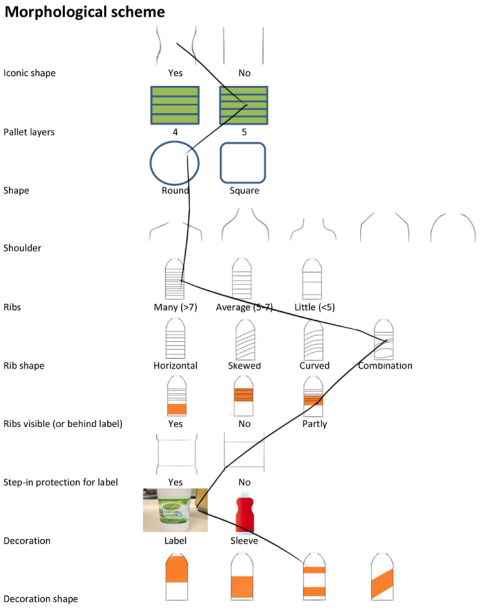
3)
Although the silhouette for this idea is more generic, the bottle is made iconic by an iconic embossment. The logo is embossed in the top of the bottle, and a grass pattern is embossed in the bottom of the bottle. The grass gives a dairy feel while the logo shows the brand of the product. Including an embossment in the concept might be an option, but is not necessary to making the bottle iconic.



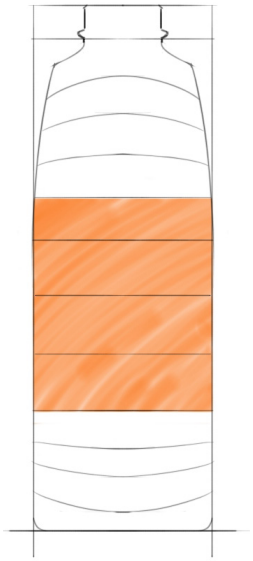


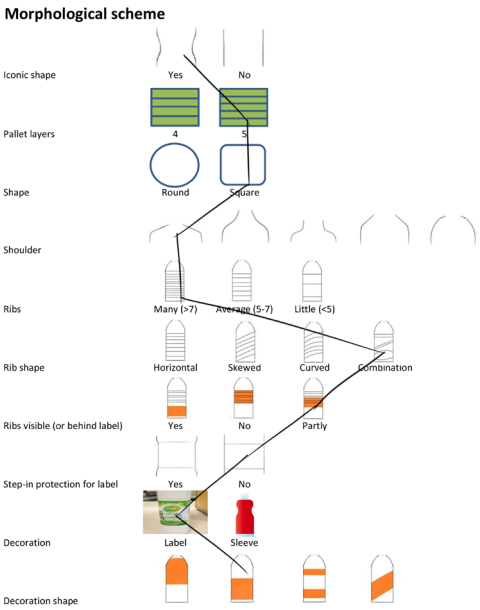
4)
This idea has a handle where the bottle can be hold by the consumer. The decoration is curved what makes the bottle extra iconic. The handle is to make pouring from the bottle easier. The handle might be convenient but will probably cause a significantly lower bottle performance, and larger dimensions. Therefore this might not be the best option to develop.



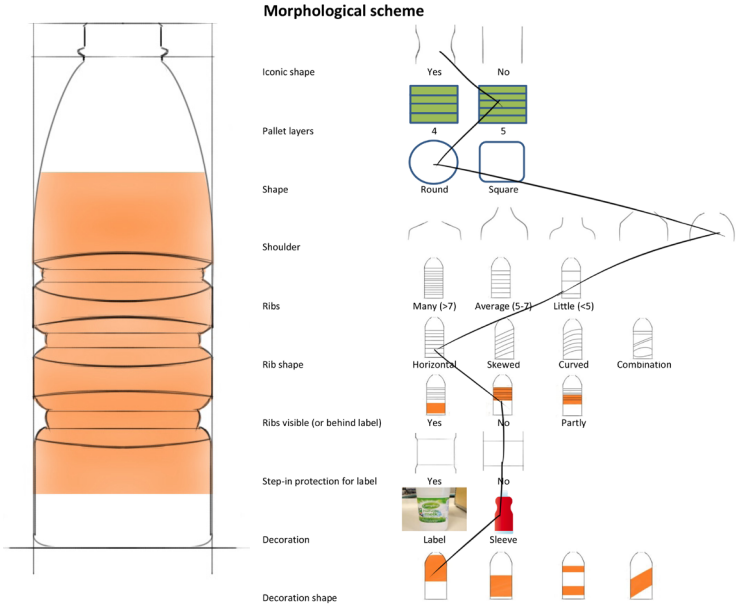


5)
The next bottle has a narrowing which makes the bottle iconic. The silhouette of the bottle is different compared to competitors, and no matter what decoration type is used, the silhouette stays visible. The narrowing from this bottle, in combination with the curvature of the ribs is a good option to develop further.



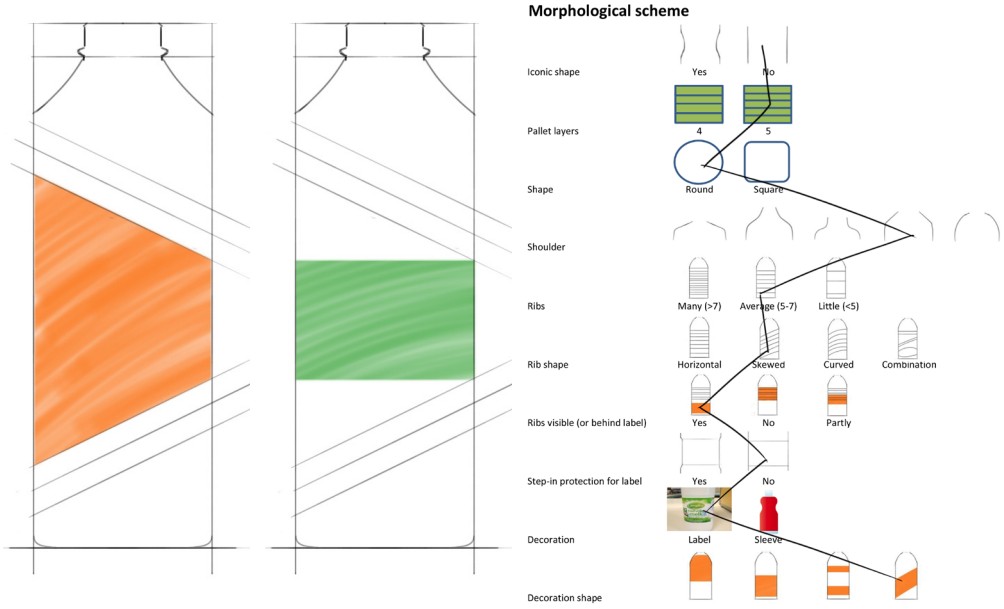


6)
The next bottle has a neck which makes the bottle iconic. The neck of this bottle gives the bottle a different silhouette than competitors and is a recognizable feature of the bottle. This makes the neck a good element of this bottle to use in further development of the concept.

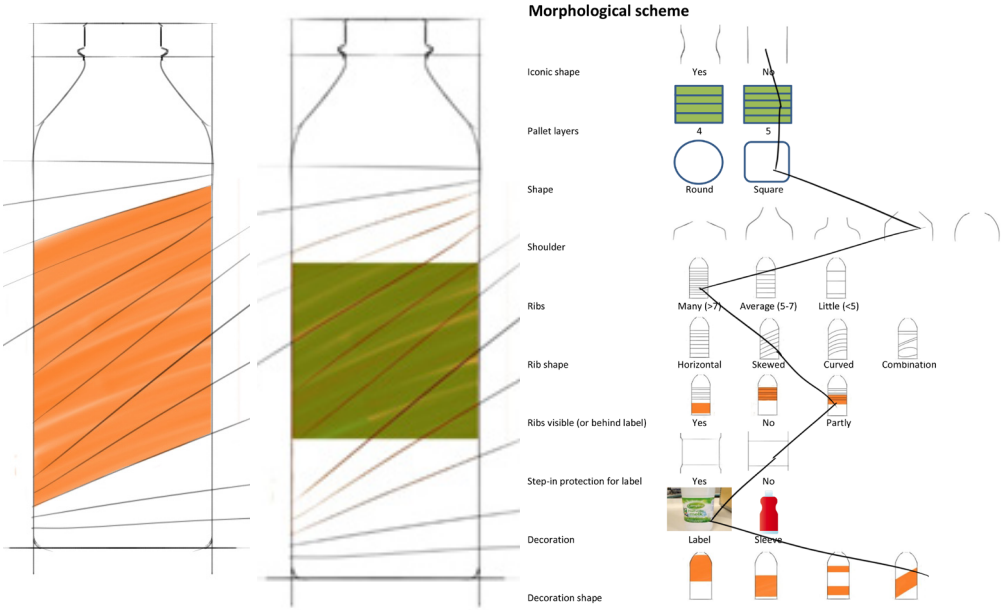


7)
The iconic part of this idea are the three large ribs in the middle, this makes the bottle recognizable for the consumer. Only sleeves can be used as decoration for this bottle because a label will block the ribs from being visible. The large ribs might be a option to further develop in the concept, but if the bottle can be made iconic in a different way that is also sufficient.

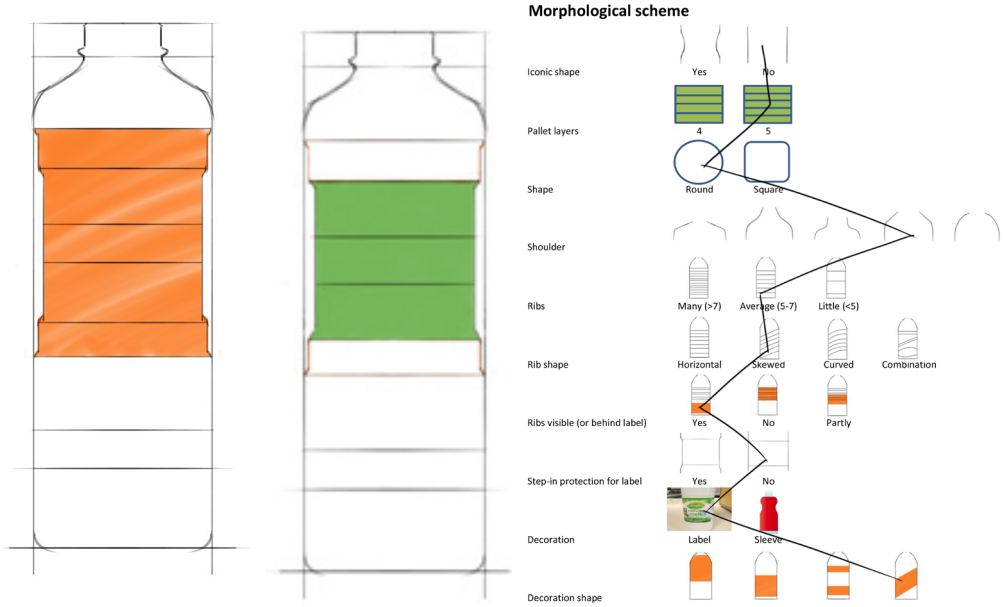
Appendix 3.4: Ideas category: Iconic decoration



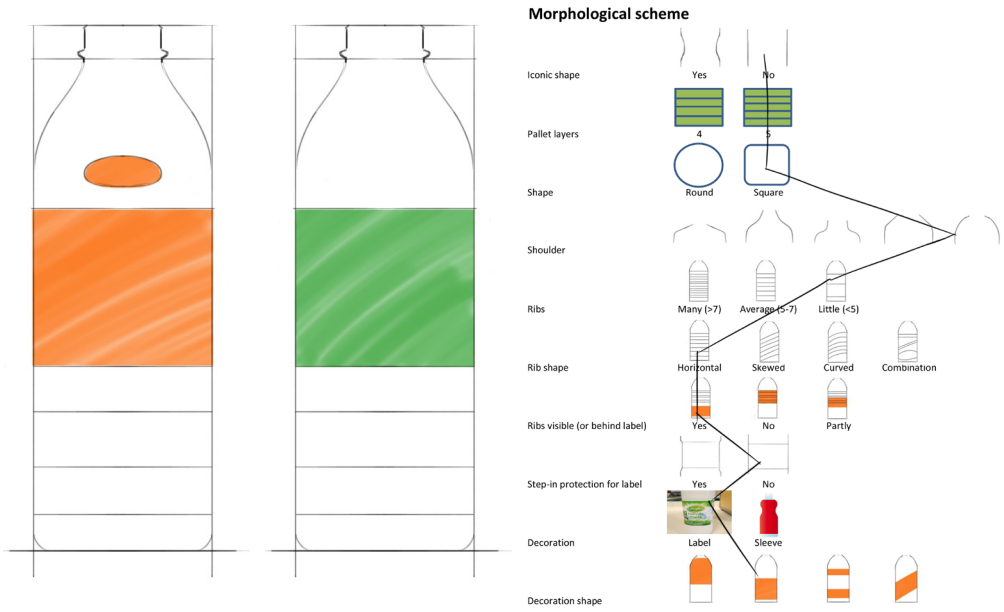
1)
This idea works with a combination of decoration and the ribs in the bottle to make the bottle iconic. There was tried to make the bottle less iconic by making the decoration generic. Although because the ribs also make the bottle a bit iconic, the generic decoration didn't change the look that much. Therefore this idea is not suitable for further development.



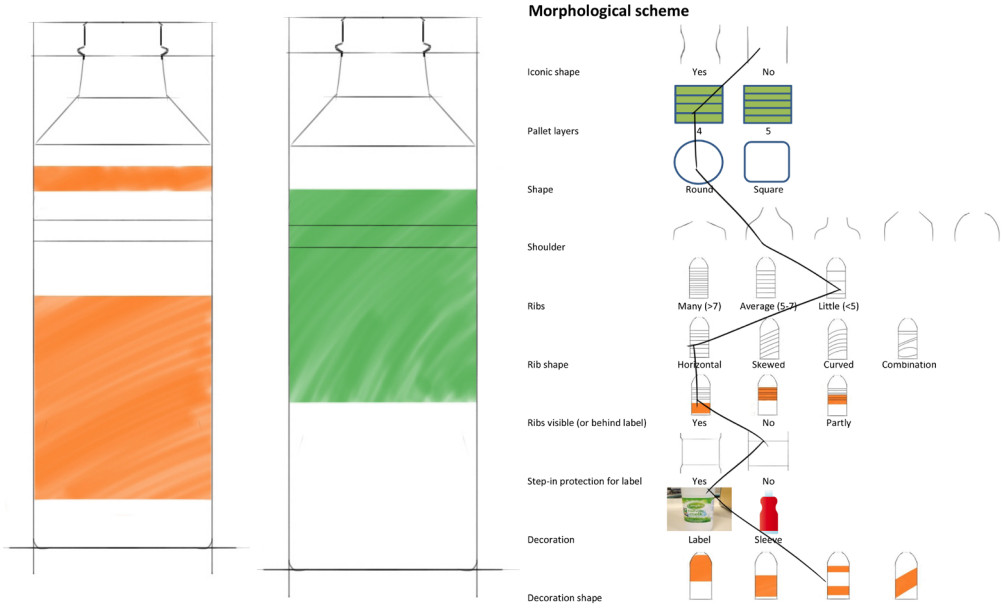
2)
At this idea the same was tried as in the first idea that by a combination of ribs and decoration the bottle would become iconic. In this idea was tried to cover up some of the ribs in the generic version. Although some of the ribs are covered, the ribs are still visible which gives the same problem as the first idea, and makes the idea not suitable for further development.



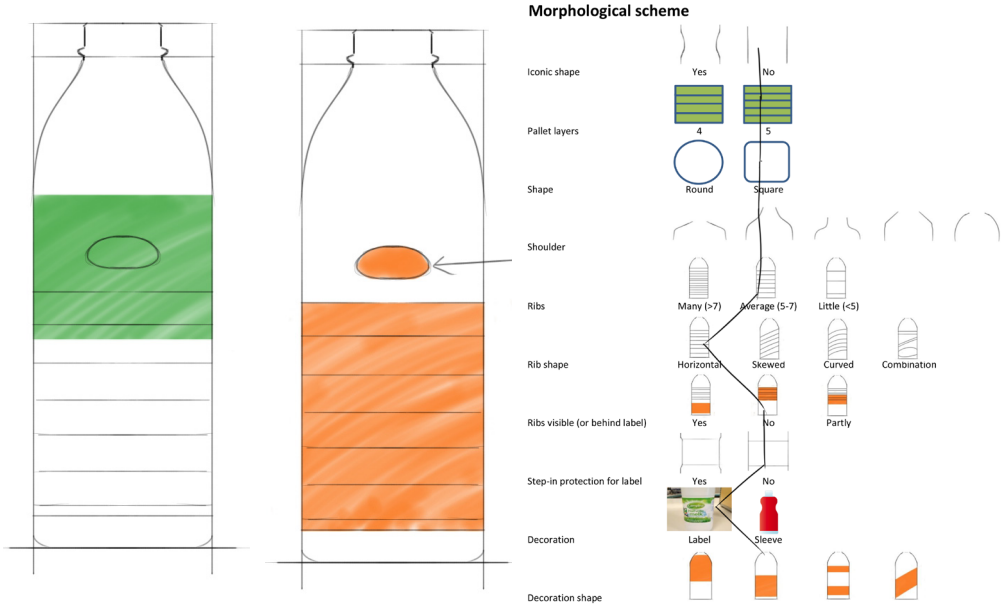
3)
For this idea was tried to make difference by applying different heights of labels, in different depths of the bottle. It turned out that this kind of difference doesn't make the difference needed to make the iconic bottle look iconic just by decoration type.



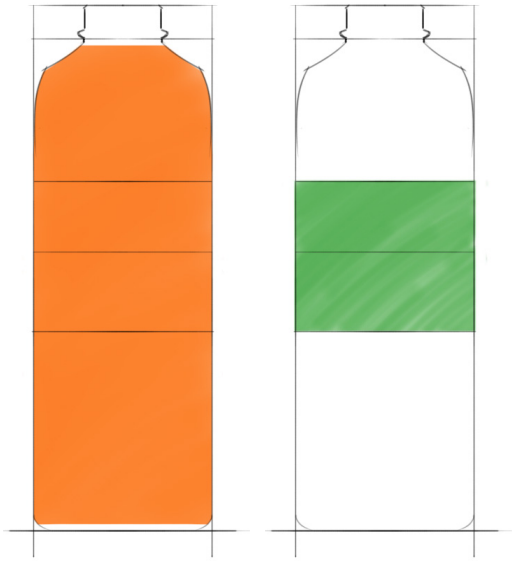
4)
For the next idea the Campina logo was added to make the bottle more iconic. The rest of the decoration is the same as the generic bottle. The logo above the label makes the bottle indeed look more iconic, but more is needed to make a big difference between the iconic and generic version.

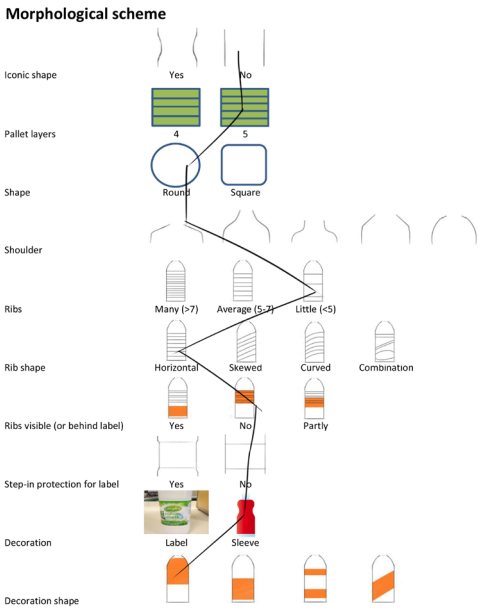


5)
Here was tried if adding a small horizontal label makes the bottle more iconic. This was tried in combination with a semi-iconic bottle shape, where the bottle is straight forward but with an interesting shape. Where was tried to make the generic version still look generic, and the iconic version look iconic by the combination. The small label makes the bottle look a bit more iconic, although on this place on the bottle and in combination with the bottle shape the difference with the generic version is tiny.

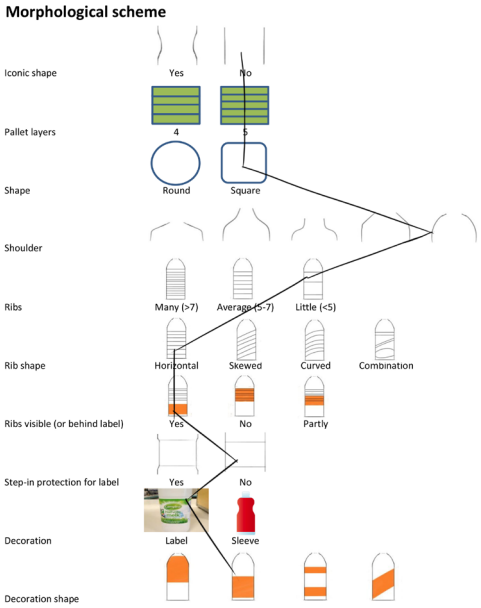


6)
For this idea another attempt was done at adding the logo as at sticker to the normal label. Here was tried to make more difference between the iconic and generic version to differ the place of the label, and add a small deepening with the contour of the Campina logo on the place of the sticker. By making the labels on different heights, and placing the generic label on the place of the deepening of for the logo sticker, the difference between the iconic and generic version of the bottle is indeed bigger, but still this is not an stand-alone option and has to be combined with other elements.

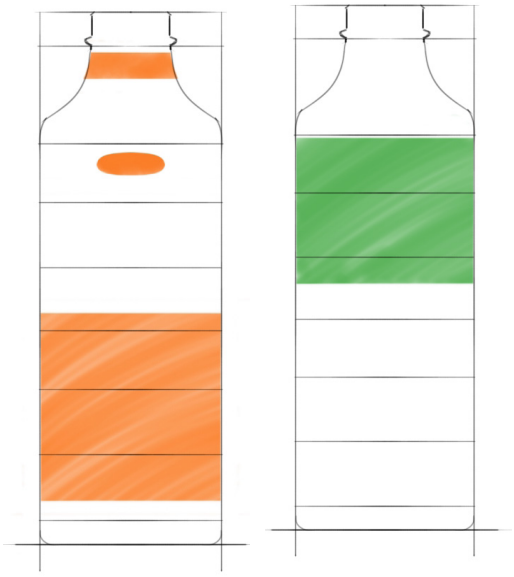


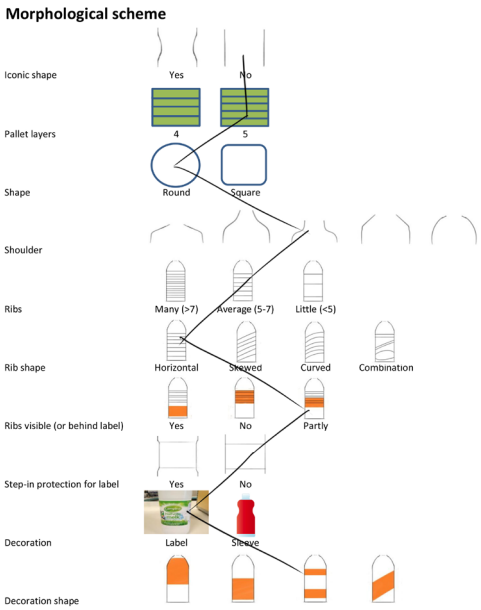


7)
For this idea a different decoration type was used to make the branded bottle iconic. A full body sleeve was used to make the difference with the 'normal' label for the generic version. The difference clearly visible between both versions. This makes the full body sleeve an option for further development. Only thing is; a (full body) sleeve is more expensive than a label. This makes that good options with labels get priority relative to this idea.

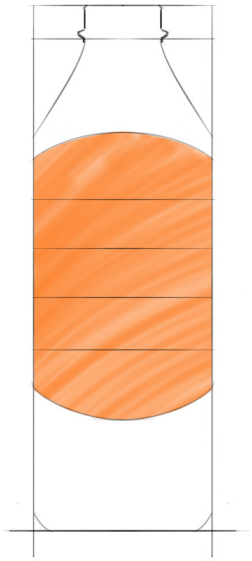


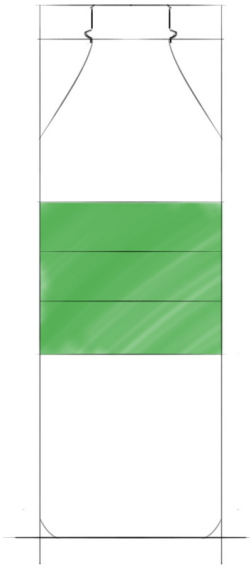
8)
Here was tried to make a difference between by still having an iconic bottle shape. The iconic version of the bottle has large (iconic) ribs on top, and the label below. The generic version has the label covering the iconic part of the bottle, which makes the difference. The difference also is visible between both versions; the only problem is that if the label of the generic version of the bottle can be dented inside the large ribs, which reveals the iconic part of the bottle again.

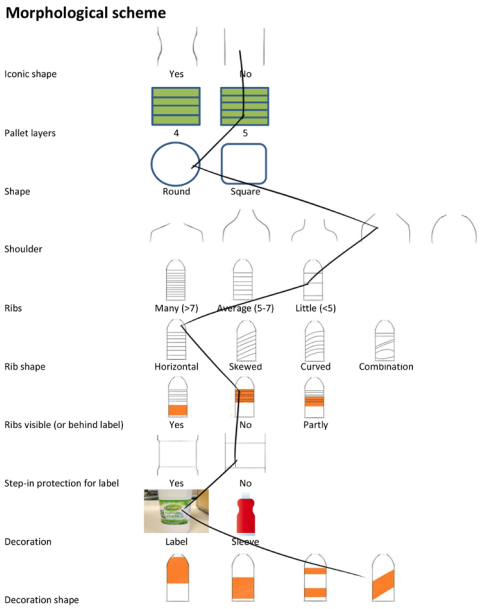




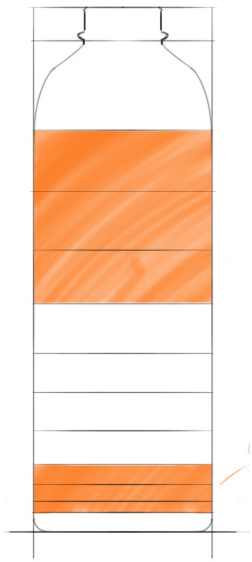
9)
For this idea was tried to combine the Campina logo sticker with a small label. Also here the generic version has the label placed on a different place on the bottle related to the iconic version of the bottle. By combining the label, logo sticker and small label the iconic version of the bottle looks more iconic than the three not combined. Although this still doesn't give the difference needed.

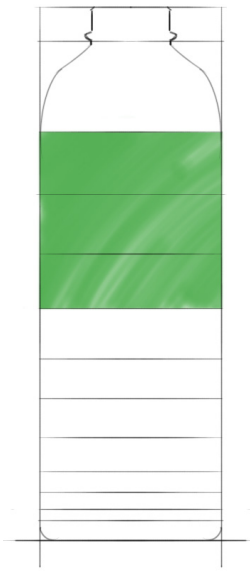


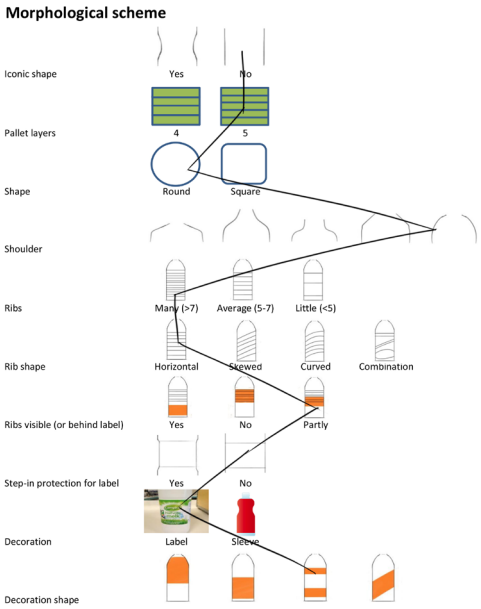




10)
For this idea the shape of the label was differed compared to the generic version of the label. By a different the label shape the bottle really looks different than the standard label. This makes this version a good option to develop further as a concept. Because the decoration is still a label the costs will not be significantly higher.

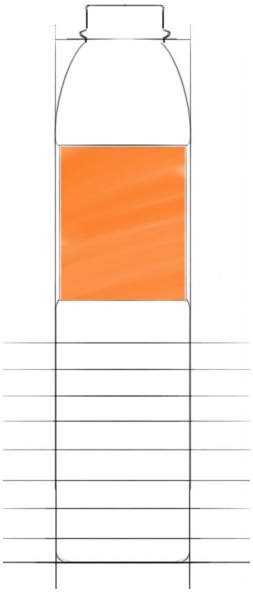


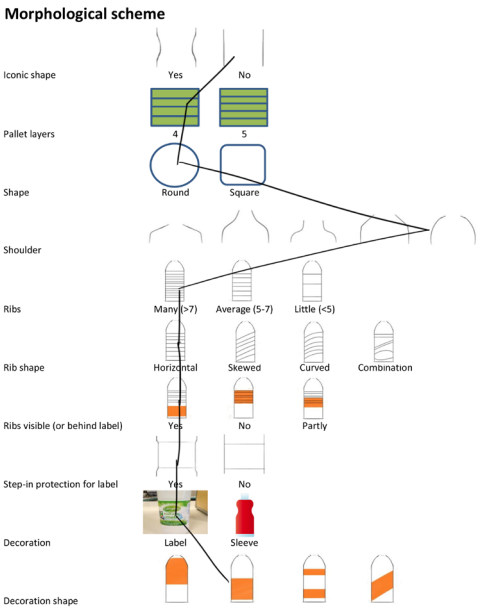




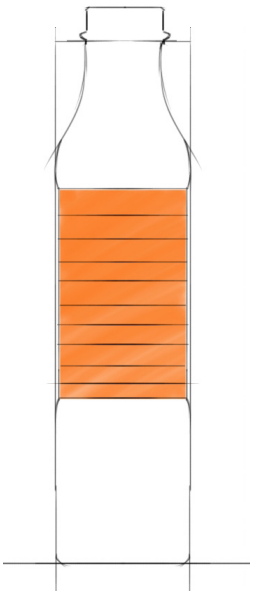
11)
Here another attempt was made to combine the normal label with a small label. Here the small label will be placed in the bottom and will be printed with a grass print. This is an alternative to the iconic by shape version where grass was embossed in the bottom of the bottle. This idea doesn't give a significant change in looks compared to the generic version of the bottle and is therefore not sufficient for further development.

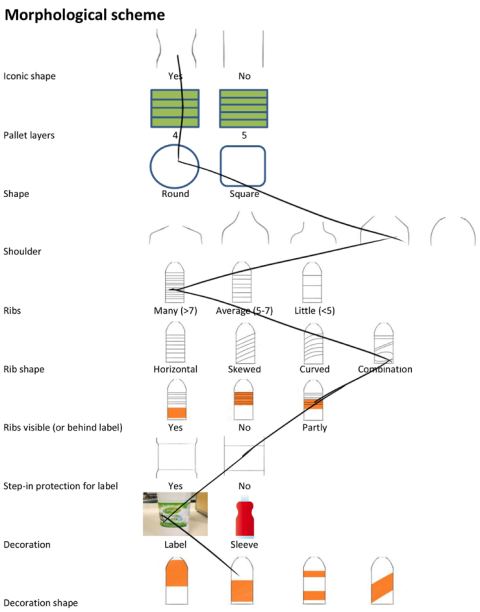
Appendix 3.5: Ideas category: Generic



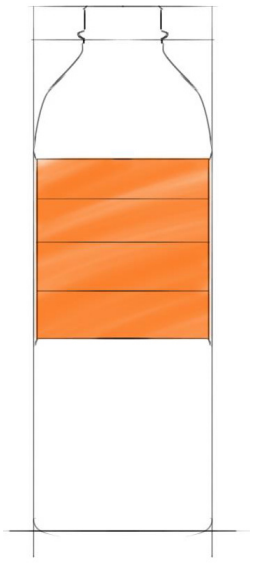


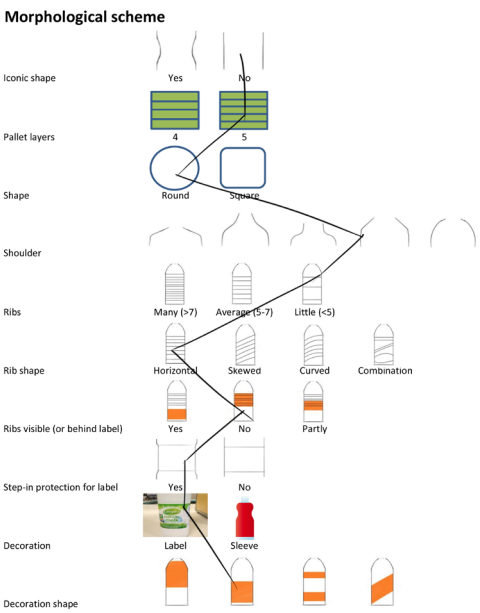
1)
This bottle is made for 4 pallet layers instead of 5. Therefore the bottle is high, which doesn't make it look like a milk bottle. Therefore the idea is not suitable.



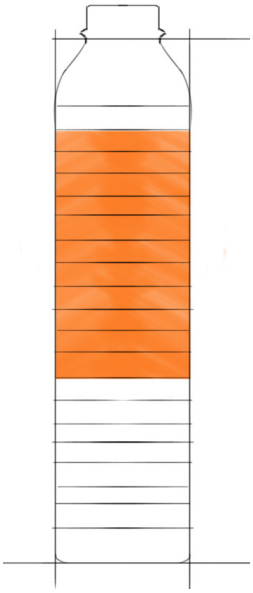


2)
This bottle is made for 4 pallet layers instead of 5. Therefore the bottle is high, which doesn't make it look like a milk bottle. Therefore the idea is not suitable.

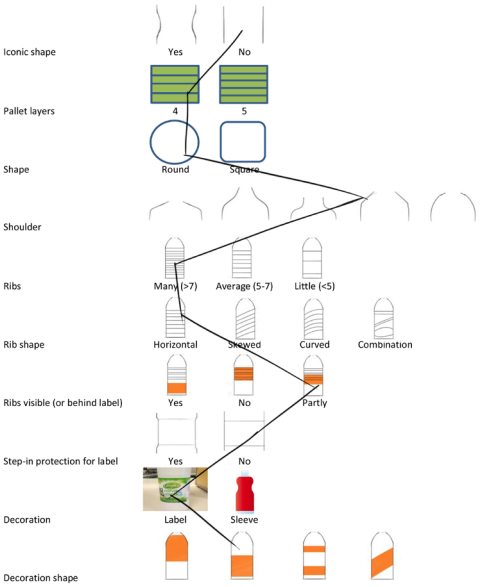




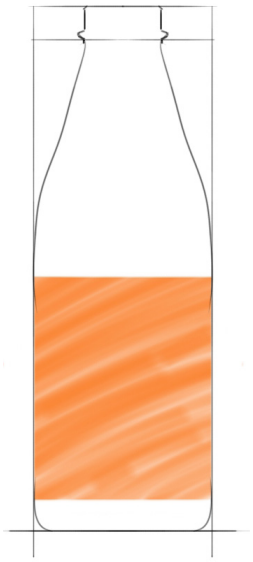
3)
Suitable



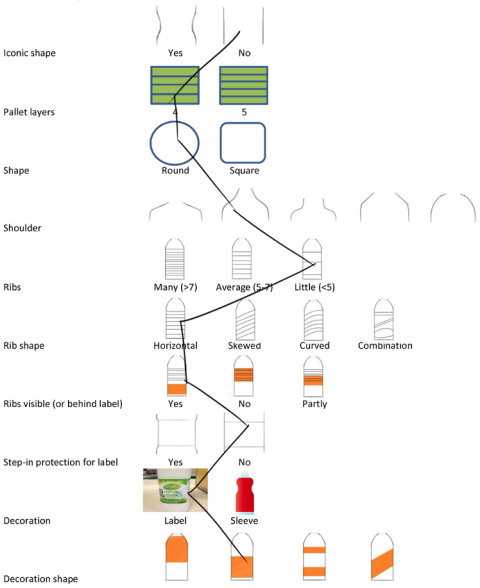
Morphological scheme



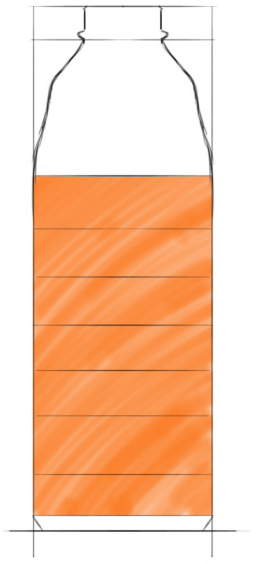
4)
This bottle is made for 4 pallet layers instead of 5. Therefore the bottle is high, which doesn't make it look like a milk bottle. Therefore the idea is not suitable.



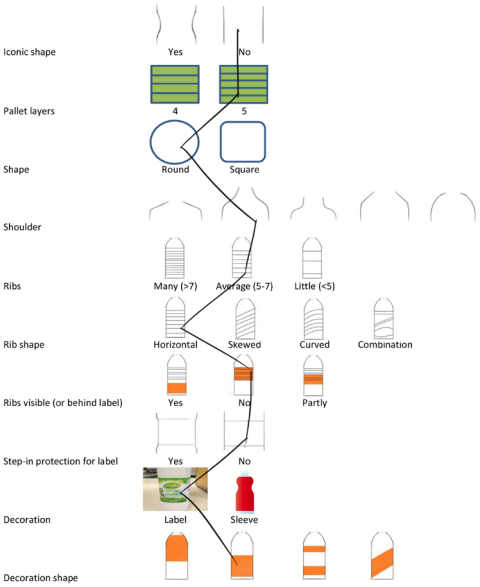
Morphological scheme



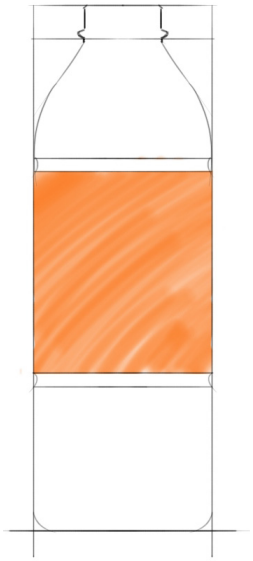
5)
This bottle has kind of an iconic bottle shape because of the large neck. Therefore the idea is not suitable.



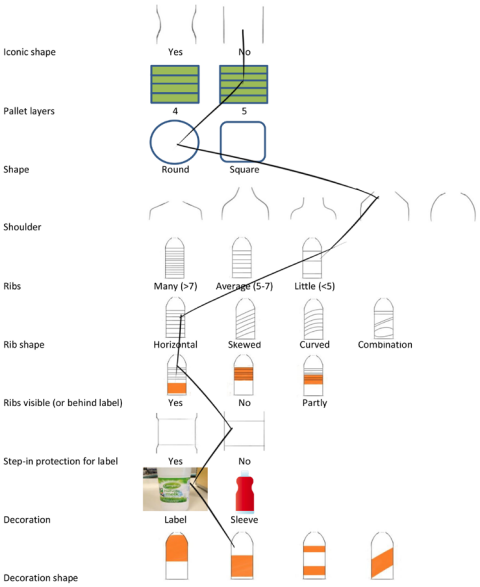
Morphological scheme



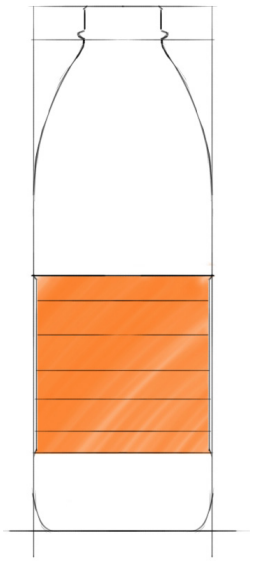
6)
This bottle has kind of an iconic bottle shape because of the shaped neck. Therefore the idea is not suitable.



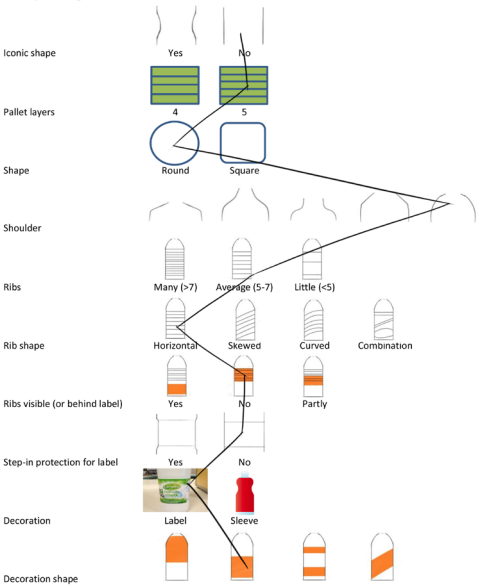
Morphological scheme



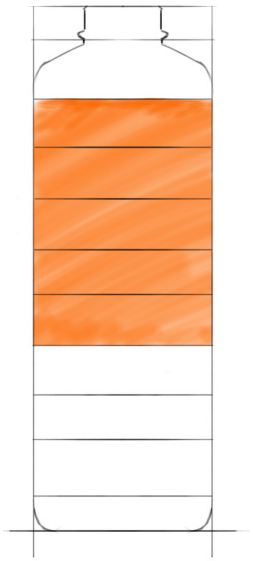
7)
This bottle has kind of an iconic bottle shape because of the deep ribs. Therefore the idea is not suitable.



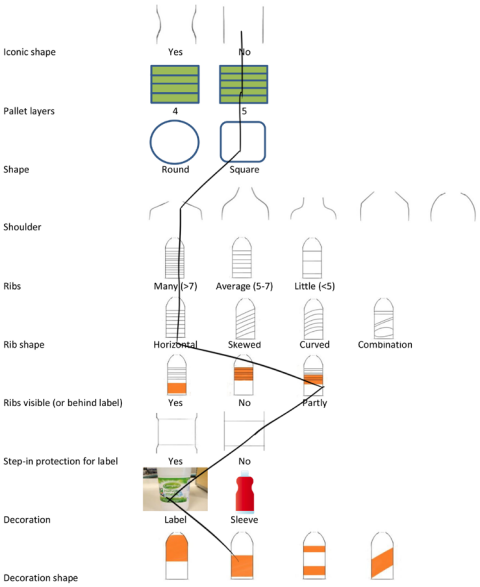
Morphological scheme



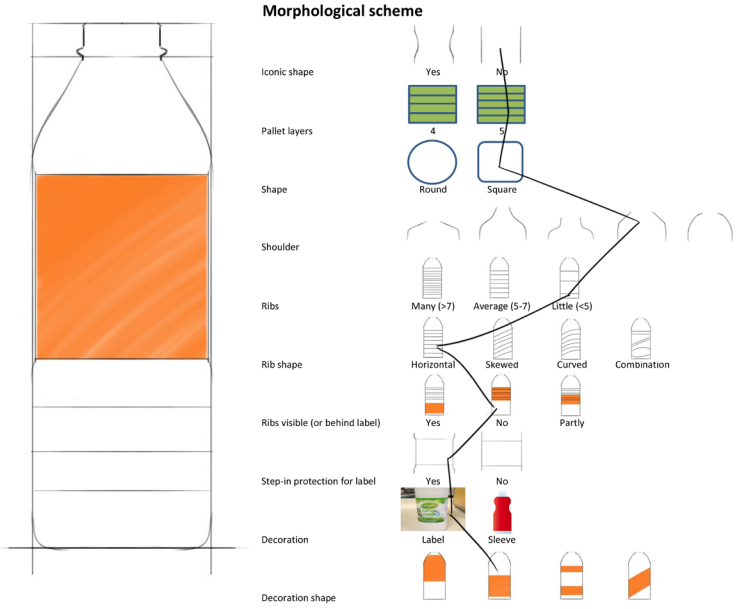
8)
Suitable.



Morphological scheme

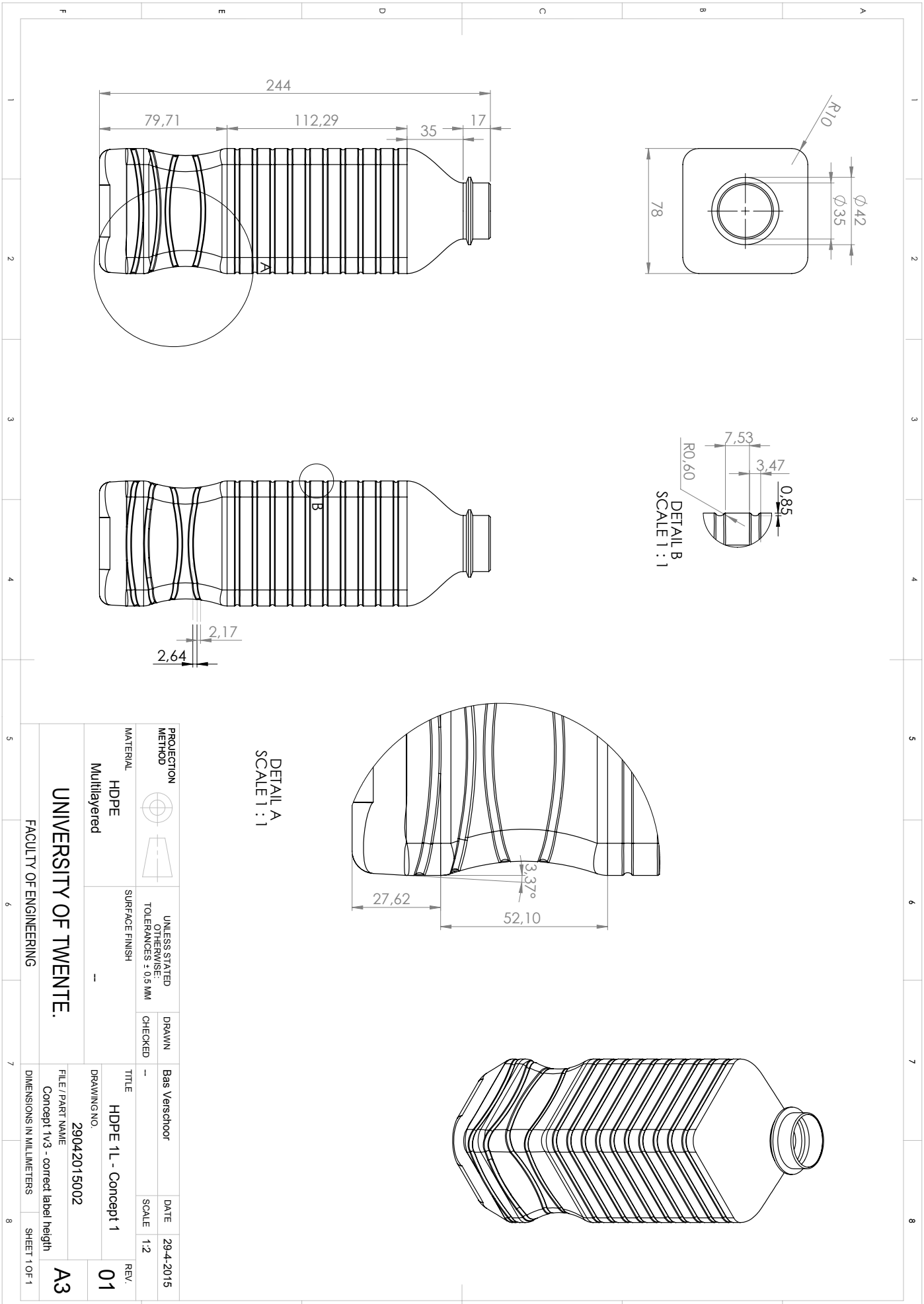


9)
Suitable.


Morphological scheme
Iconic shape
Yes
No
Pallet layers
4
5
Shape
Round
Square
Shoulder
Ribs
Many (>7)
Average (5-7)
Little (<5)
Rib shape
Horizontal
Skewed
Curved
Combination
Ribs visible (or behind label)
Yes
No
Partly
Step-in protection for label
Yes
No
Decoration
Label
Sleeve
Decoration shape

10)
Suitable.

Appendix 4.1: Technical drawing concept 1



Appendix 4.2: Pallet patterns concept 1

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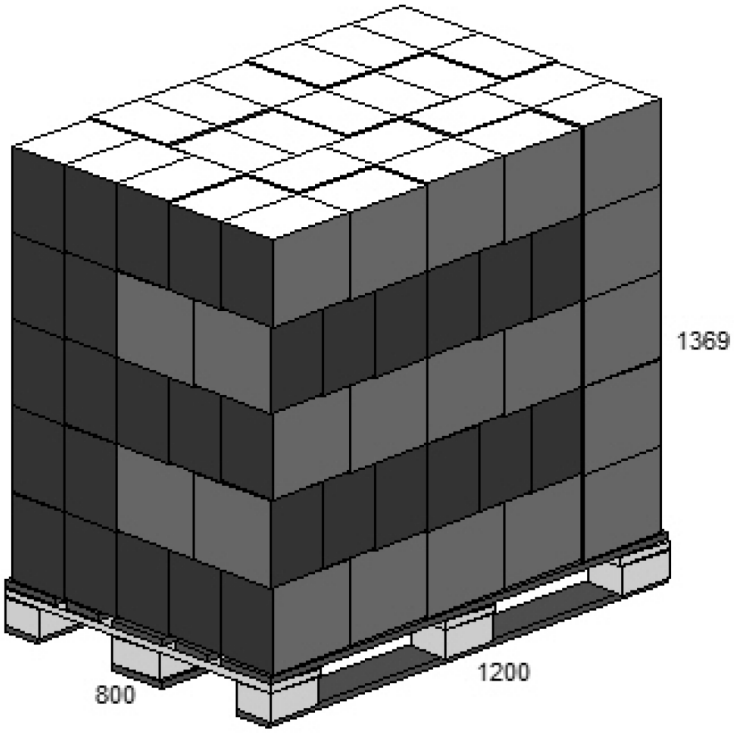

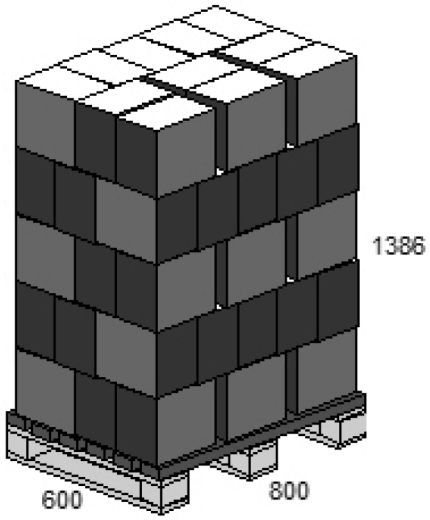

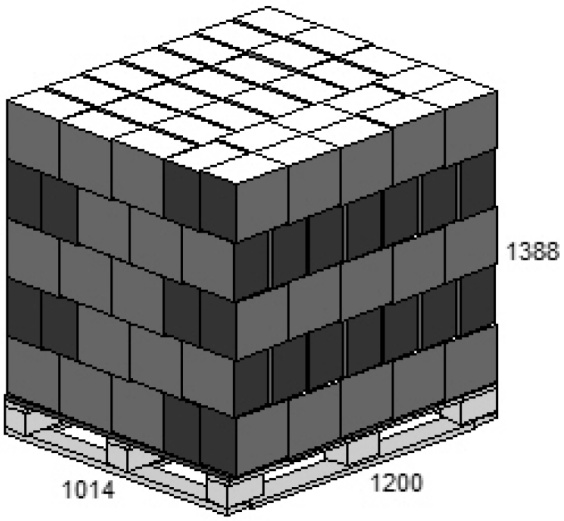

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Product Name	Pallet Group					
Product Code	Cases/Tray/Ovals					
Datafile Name	concept 1 - 6pack-oplossing (30-4-2015)					
Load Ref.	3 T					
Cube Used	93,5 %			25		Box / Layer
Area Used	95,1 %			5		Layer / Load
Pallet type	EURO4			125		Box / Load

	Length	Width	Height		Net	Gross
Box (OD)	234,0	156,0	245,0	mm	1,0000	6,1500 Kg
Product	1170,0	780,0	1225,0	mm	125,0000	768,7500 Kg
Load	1200,0	800,0	1369,0	mm	768,7500	792,7500 Kg

Product Name	Pallet Group					
Product Code	Cases/Tray/Ovals					
Datafile Name	concept 1 - 6pack-oplossing (30-4-2015)					
Load Ref.	1 I					
Cube Used	94,1 %			31		Box / Layer
Area Used	94,3 %			5		Layer / Load
Pallet type	BIGCHEP			155		Box / Load

	Length	Width	Height		Net	Gross
Box (OD)	234,0	156,0	245,0	mm	1,0000	6,1500 Kg
Product	1170,0	1014,0	1225,0	mm	155,0000	953,2500 Kg
Load	1200,0	1014,0	1388,0	mm	953,2500	983,2500 Kg

Product Name	Pallet Group					
Product Code	Cases/Tray/Ovals					
Datafile Name	concept 1 - 6pack-oplossing (30-4-2015)					
Load Ref.	1 I					
Cube Used	83,4 %			11		Box / Layer
Area Used	83,7 %			5		Layer / Load
Pallet type	EUROHALF			55		Box / Load

	Length	Width	Height		Net	Gross
Box (OD)	234,0	156,0	245,0	mm	1,0000	6,1500 Kg
Product	780,0	546,0	1225,0	mm	55,0000	338,2500 Kg
Load	800,0	600,0	1386,0	mm	338,2500	350,2500 Kg

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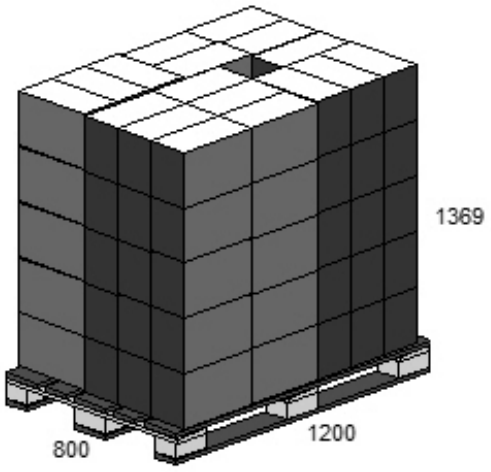
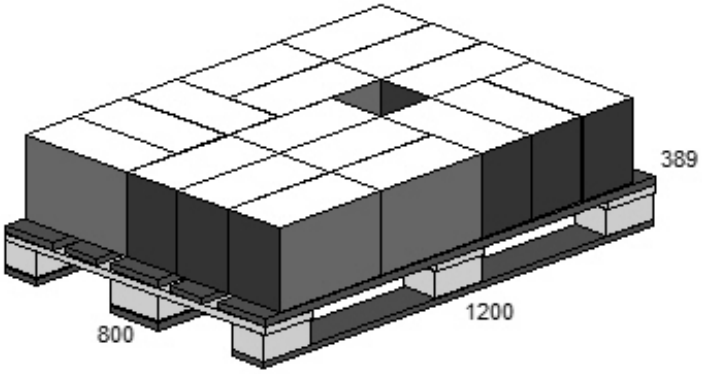
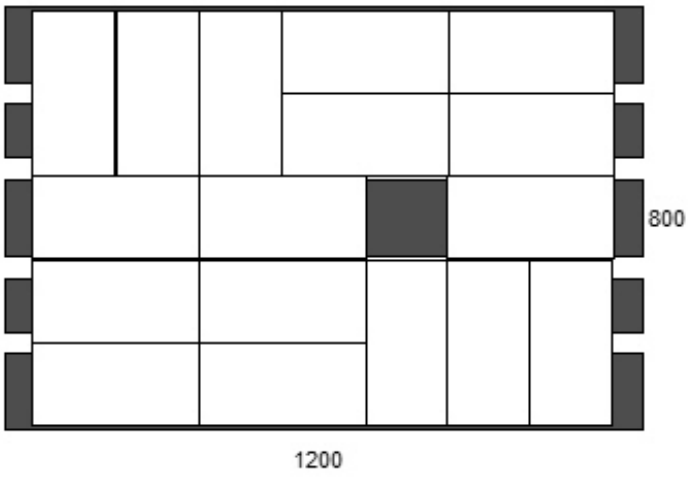
Product Name	Pallet Group
Product Code	Cases/Tray/Ovals
Datafile Name	concept 1 - 8pack (30-4-2015)
Load Ref.	24 S
Cube Used	84,7 %
Area Used	86,2 %
Pallet type	EURO4

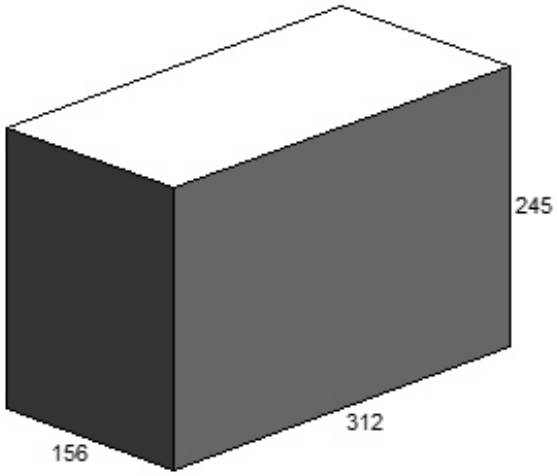
		17				Box / Layer	
		5				Layer / Load	
		85				Box / Load	

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	312,0	156,0	245,0	mm	1,0000	6,1500	Kg	11924	cm^3
Product	1092,0	780,0	1225,0	mm	85,0000	522,7500	Kg	1,04	m^3
Load	1200,0	800,0	1369,0	mm	522,7500	546,7500	Kg	1,31	m^3
Overhang	-54,0	-10,0		mm					









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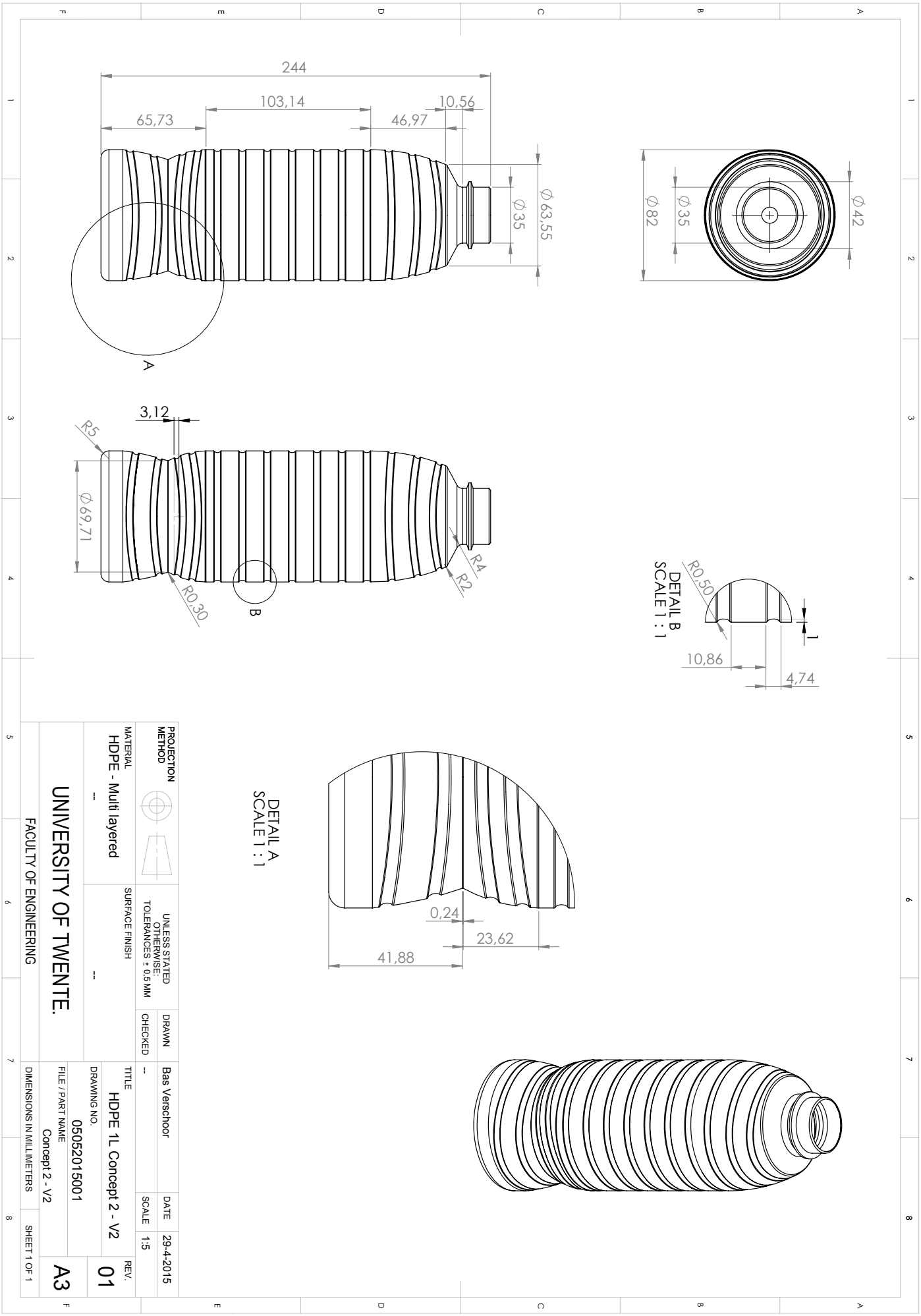
Appendix 4.3: Label print proposals

Straight branded label concept 1,2 &4

Branded label concept 3

Generic label concept 3 & 4

Appendix 4.4: Technical drawing concept 2



Appendix 4.5: Pallet patterns concept 2

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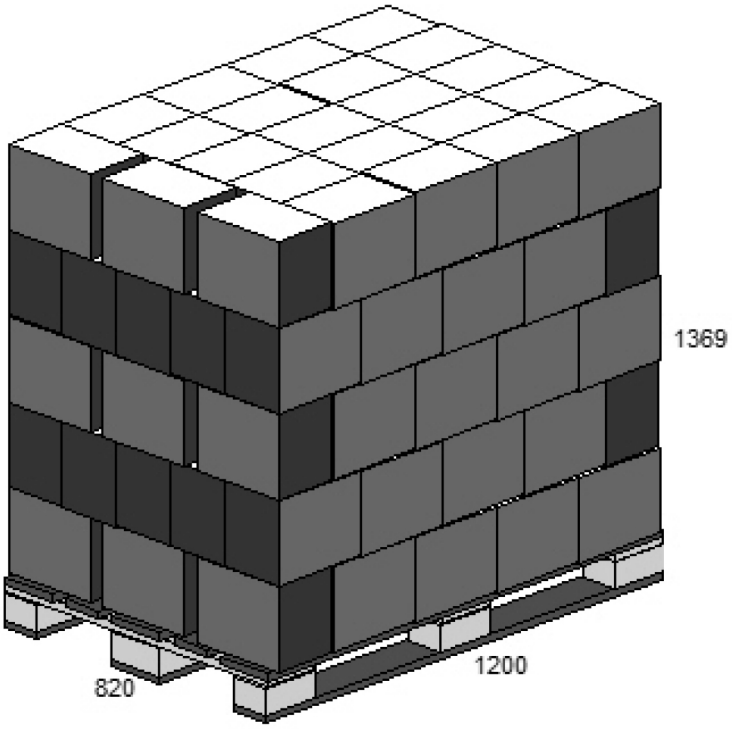

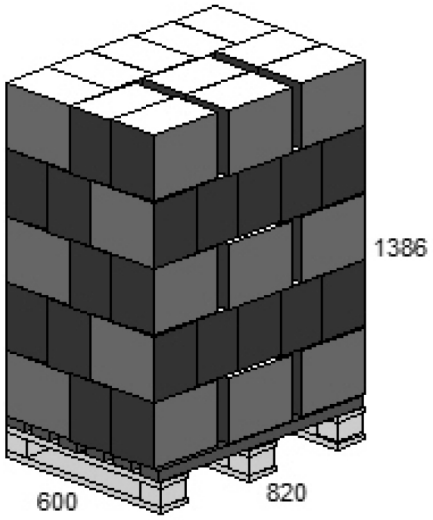

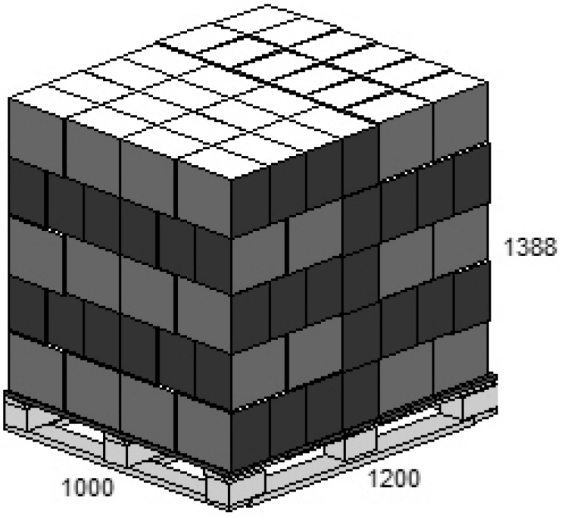

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Product Name	Concept 2 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 2 - 6pack (30-4-2015)							
Load Ref.	28 I							
Cube Used	95,8 %				23		Box / Layer	
Area Used	97,4 %				5		Layer / Load	
Pallet type	EURO4				115		Box / Load	

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	248,0	164,0	245,0	mm	1,0000	6,1500	Kg	9964	cm^3
Product	1156,0	820,0	1225,0	mm	115,0000	707,2500	Kg	1,16	m^3
Load	1200,0	820,0	1369,0	mm	707,2500	731,2500	Kg	1,35	m^3
Overhang	-22,0	10,0		mm					

Product Name	Concept 2 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 2 - 6pack (30-4-2015)							
Load Ref.	35 I							
Cube Used	94,7 %				28		Box / Layer	
Area Used	94,9 %				5		Layer / Load	
Pallet type	BIGCHEP				140		Box / Load	

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	248,0	164,0	245,0	mm	1,0000	6,1500	Kg	9964	cm^3
Product	1152,0	992,0	1225,0	mm	140,0000	861,0000	Kg	1,40	m^3
Load	1200,0	1000,0	1388,0	mm	861,0000	891,0000	Kg	1,67	m^3
Overhang	-24,0	-4,0		mm					

Product Name	Concept 2 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 2 - 6pack (30-4-2015)							
Load Ref.	1 I							
Cube Used	92,9 %				11		Box / Layer	
Area Used	93,2 %				5		Layer / Load	
Pallet type	EUROHALF				55		Box / Load	

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	248,0	164,0	245,0	mm	1,0000	6,1500	Kg	9964	cm^3
Product	820,0	576,0	1225,0	mm	55,0000	338,2500	Kg	0,58	m^3
Load	820,0	600,0	1386,0	mm	338,2500	350,2500	Kg	0,68	m^3
Overhang	10,0	-12,0		mm					

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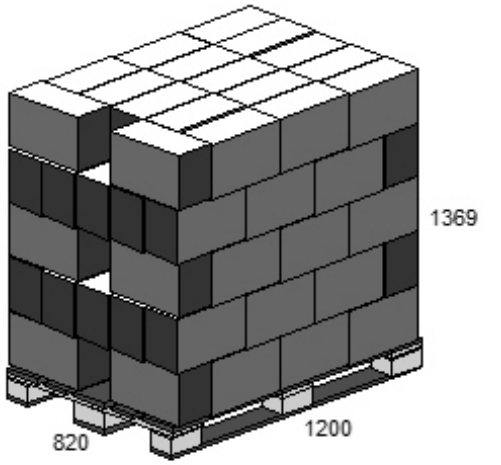
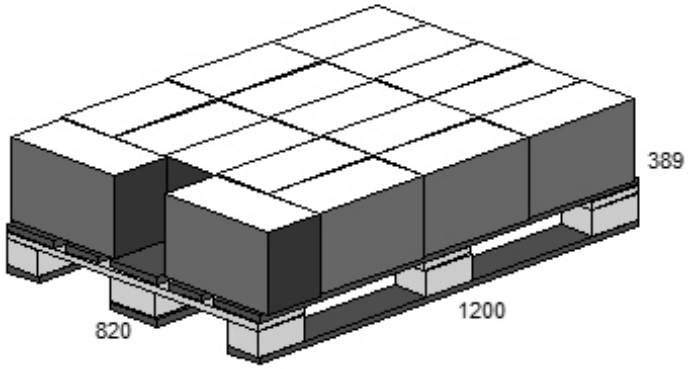
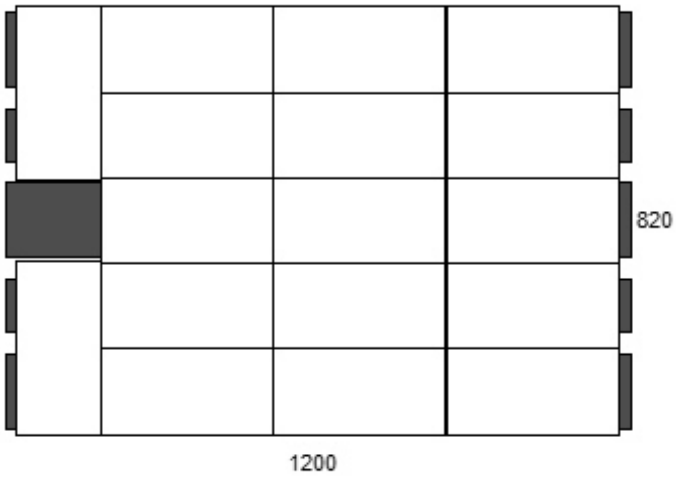
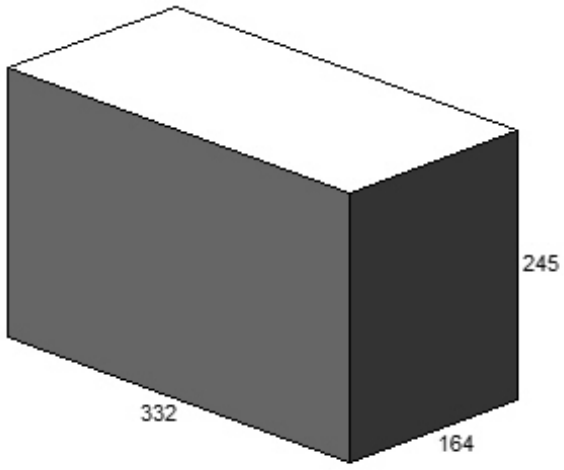
Product Name	Concept 2 - 6-pack		
Product Code	6-pack		
Datafile Name	concept 2 - euro 8pack (30-4-2015)		
Load Ref.	1 I		
Cube Used	94,8 %	17	Box / Layer
Area Used	96,4 %	5	Layer / Load
Pallet type	EURO4	85	Box / Load

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	332,0	164,0	245,0	mm	1,0000	6,1500	Kg	13339	cm^3
Product	1160,0	820,0	1225,0	mm	85,0000	522,7500	Kg	1,17	m^3
Load	1200,0	820,0	1369,0	mm	522,7500	546,7500	Kg	1,35	m^3
Overhang	-20,0	10,0		mm					









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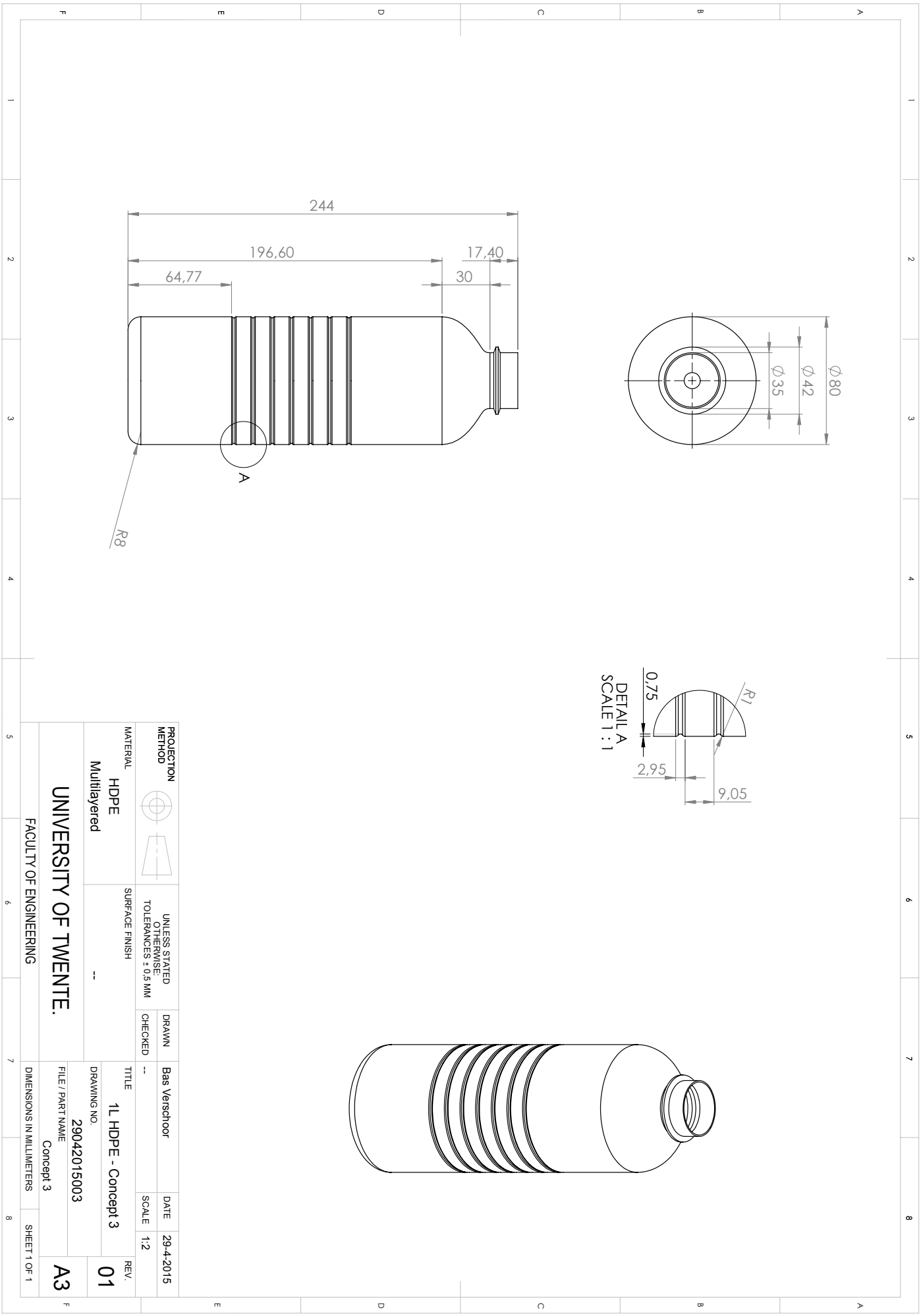
Appendix 4.6: Technical drawing concept 3



Appendix 4.7: Pallet patterns concept 3

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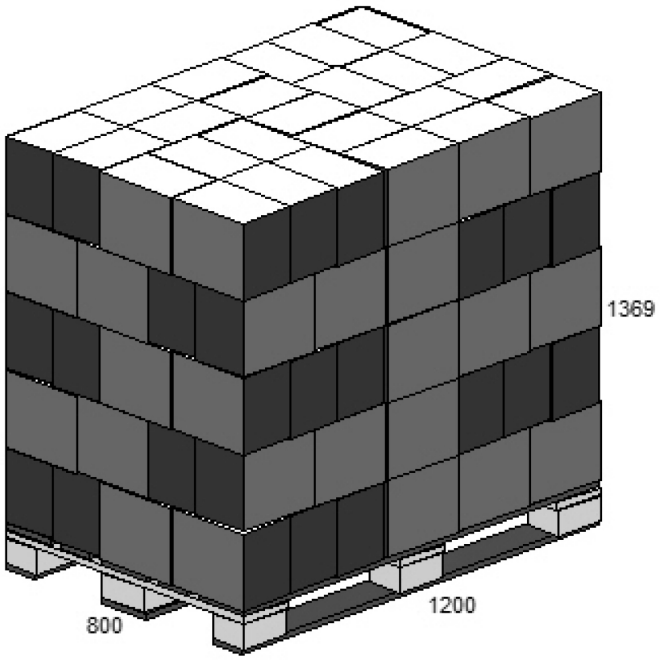

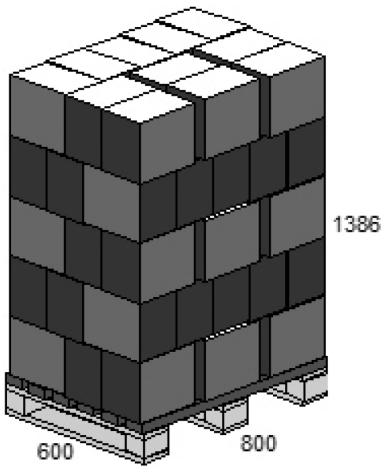

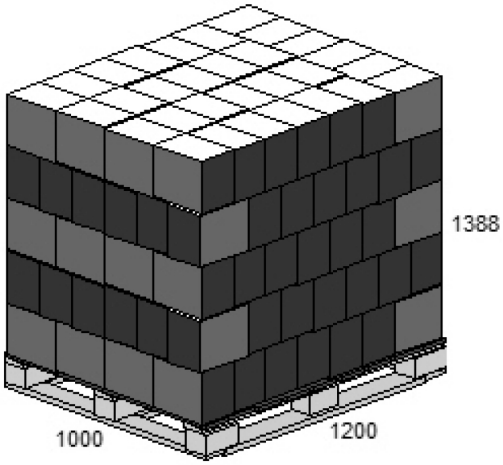

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Product Name	Concept 3 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 3 - euro 6pack (30-4-2015)							
Load Ref.	5 X (Edited)							
Cube Used	98,3 %				25		Box / Layer	
Area Used	100,0 %				5		Layer / Load	
Pallet type	EURO4				125		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	240,0	160,0	245,0	mm	1,0000	6,1500 Kg	9408	cm^3
Product	1200,0	800,0	1225,0	mm	125,0000	768,7500 Kg	1,18	m^3
Load	1200,0	800,0	1369,0	mm	768,7500	792,7500 Kg	1,31	m^3
Overhang	0,0	0,0		mm				

Product Name	Concept 3 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 3 - euro 6pack (30-4-2015)							
Load Ref.	29 I							
Cube Used	95,8 %				30		Box / Layer	
Area Used	96,0 %				5		Layer / Load	
Pallet type	BIGCHEP				150		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	240,0	160,0	245,0	mm	1,0000	6,1500 Kg	9408	cm^3
Product	1200,0	960,0	1225,0	mm	150,0000	922,5000 Kg	1,41	m^3
Load	1200,0	1000,0	1388,0	mm	922,5000	952,5000 Kg	1,67	m^3
Overhang	0,0	-20,0		mm				

Product Name	Concept 3 - 6-pack							
Product Code	6-pack							
Datafile Name	concept 3 - euro 6pack (30-4-2015)							
Load Ref.	1 I							
Cube Used	87,7 %				11		Box / Layer	
Area Used	88,0 %				5		Layer / Load	
Pallet type	EUROHALF				55		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	240,0	160,0	245,0	mm	1,0000	6,1500 Kg	9408	cm^3
Product	800,0	560,0	1225,0	mm	55,0000	338,2500 Kg	0,55	m^3
Load	800,0	600,0	1386,0	mm	338,2500	350,2500 Kg	0,67	m^3
Overhang	0,0	-20,0		mm				

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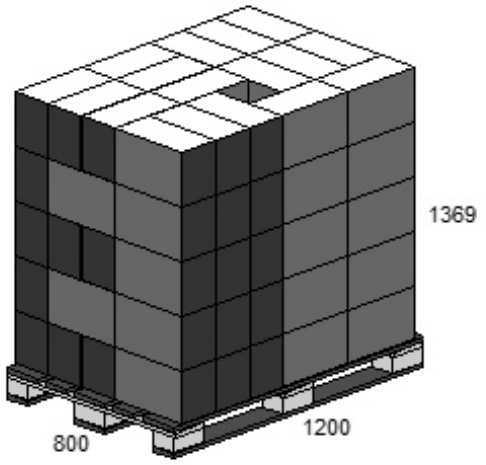
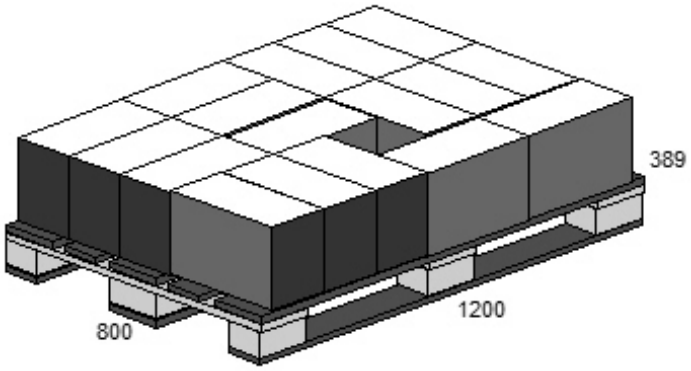
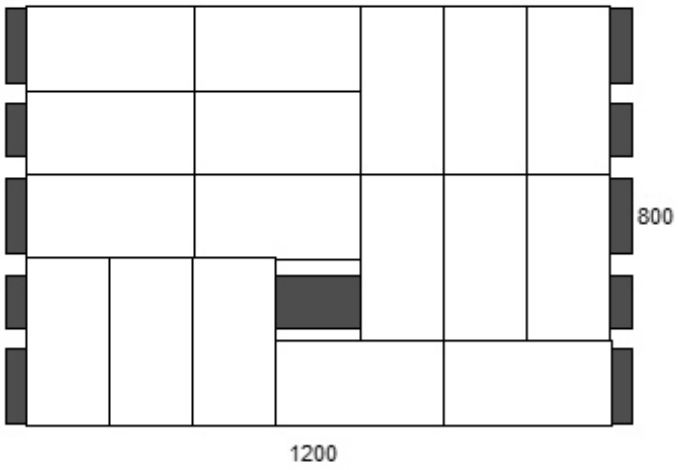
donderdag 30 april 2015

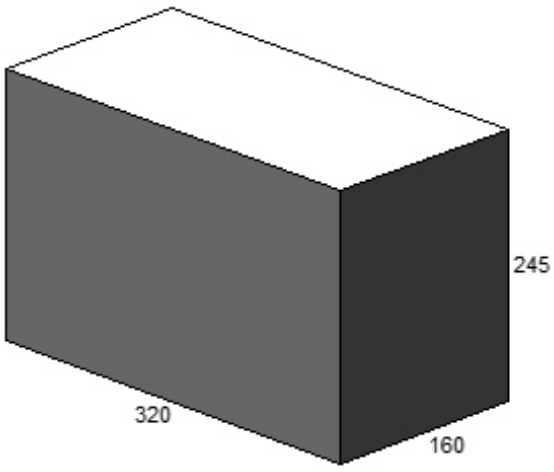
Product Name	Concept 3 - 8-pack		
Product Code	6-pack		
Datafile Name	concept 3 - euro 8pack (30-4-2015)		
Load Ref.	14 S		
Cube Used	89,1 %	17	Box / Layer
Area Used	90,7 %	5	Layer / Load
Pallet type	EURO4	85	Box / Load

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	320,0	160,0	245,0	mm	1,0000	6,1500	Kg	12544	cm^3
Product	1120,0	800,0	1225,0	mm	85,0000	522,7500	Kg	1,10	m^3
Load	1200,0	800,0	1369,0	mm	522,7500	546,7500	Kg	1,31	m^3
Overhang	-40,0	0,0		mm					









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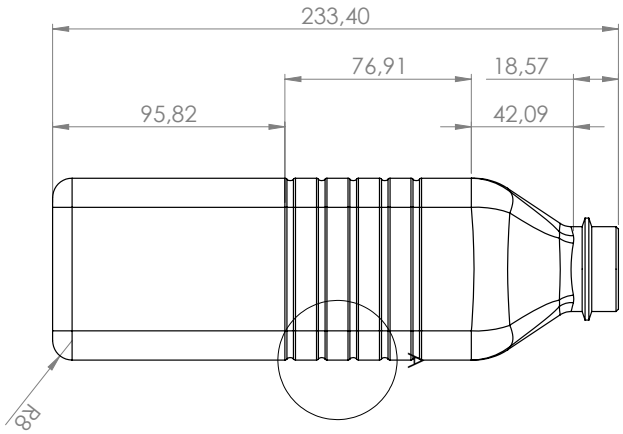
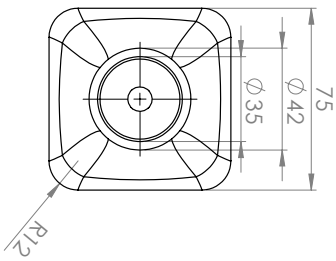
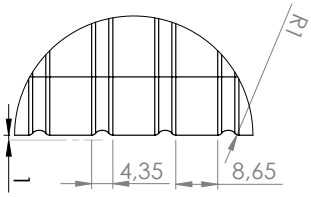
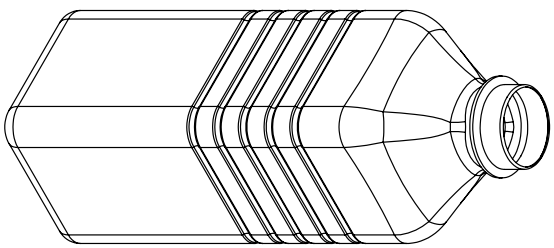
Appendix 4.8: Technical drawing concept 4





DETAIL A
SCALE 1 : 1





PROJECTION METHOD	UNLESS STATED OTHERWISE: TOLERANCES ± 0,5 MM	DRAWN	Bas Verschoor
MATERIAL	SURFACE FINISH	CHECKED	--
HDPE Multilayered	--	TITLE	HDPE 1L Concept 4
		DRAWING NO.	2904205004
		FILE / PART NAME	Concept 4
DIMENSIONS IN MILLIMETERS		SCALE	1:2
		DATE	29-4-2015
		REV.	01
		SHEET 1 OF 1	A3

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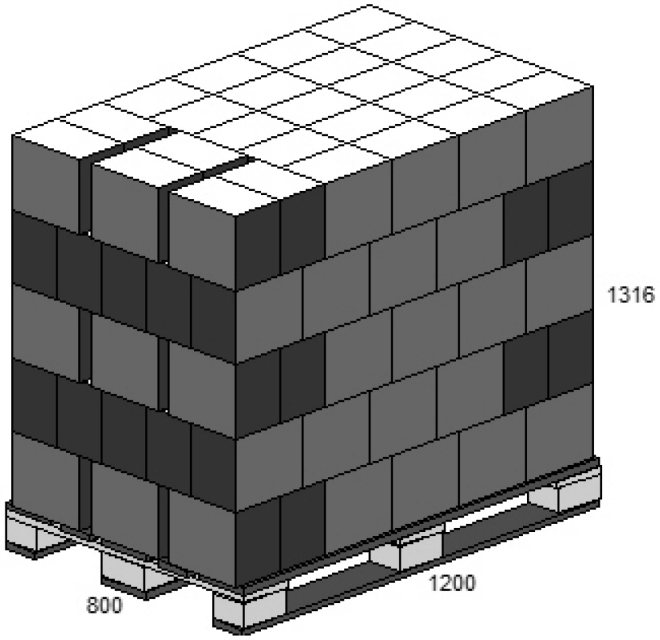
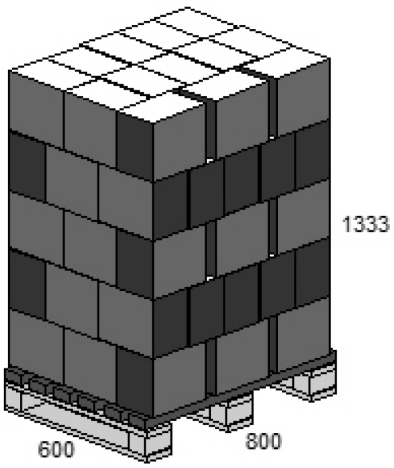
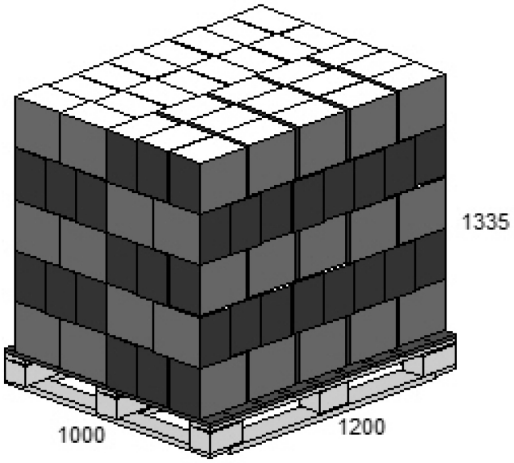
FACULTY OF ENGINEERING

Appendix 4.9: Pallet patterns concept 4

vrijdag 1 mei 2015







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Product Name		Concept 3 - 6-pack						
Product Code		6-pack						
Datafile Name		concept 4 - euro 6pack (30-4-2015)						
Load Ref.		35 I						
Cube Used		86,0 %			26		Box / Layer	
Area Used		91,4 %			5		Layer / Load	
Pallet type		EURO4			130		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	225,0	150,0	234,4	mm	1,0000	6,1500 Kg	7911	cm^3
Product	1200,0	750,0	1172,0	mm	130,0000	799,5000 Kg	1,05	m^3
Load	1200,0	800,0	1316,0	mm	799,5000	823,5000 Kg	1,26	m^3
Overhang	0,0	-25,0		mm				

Product Name		Concept 3 - 6-pack						
Product Code		6-pack						
Datafile Name		concept 4 - euro 6pack (30-4-2015)						
Load Ref.		1 I						
Cube Used		83,3 %			31		Box / Layer	
Area Used		87,2 %			5		Layer / Load	
Pallet type		BIGCHEP			155		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	225,0	150,0	234,4	mm	1,0000	6,1500 Kg	7911	cm^3
Product	1200,0	900,0	1172,0	mm	155,0000	953,2500 Kg	1,27	m^3
Load	1200,0	1000,0	1335,0	mm	953,2500	983,2500 Kg	1,60	m^3
Overhang	0,0	-50,0		mm				

Product Name		Concept 3 - 6-pack						
Product Code		6-pack						
Datafile Name		concept 4 - euro 6pack (30-4-2015)						
Load Ref.		11 I						
Cube Used		87,2 %			13		Box / Layer	
Area Used		91,4 %			5		Layer / Load	
Pallet type		EUROHALF			65		Box / Load	
	Length	Width	Height		Net	Gross	Volume	
Box (OD)	225,0	150,0	234,4	mm	1,0000	6,1500 Kg	7911	cm^3
Product	750,0	600,0	1172,0	mm	65,0000	399,7500 Kg	0,53	m^3
Load	800,0	600,0	1333,0	mm	399,7500	411,7500 Kg	0,64	m^3
Overhang	-25,0	0,0		mm				

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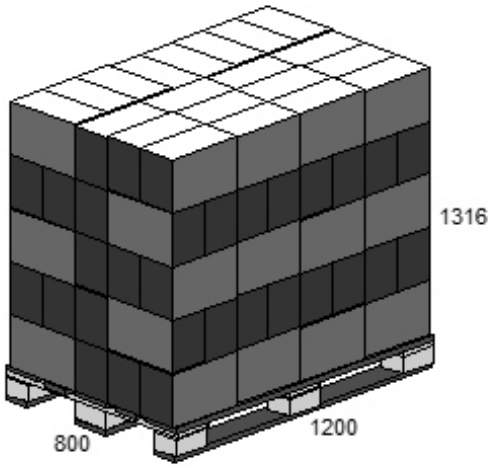
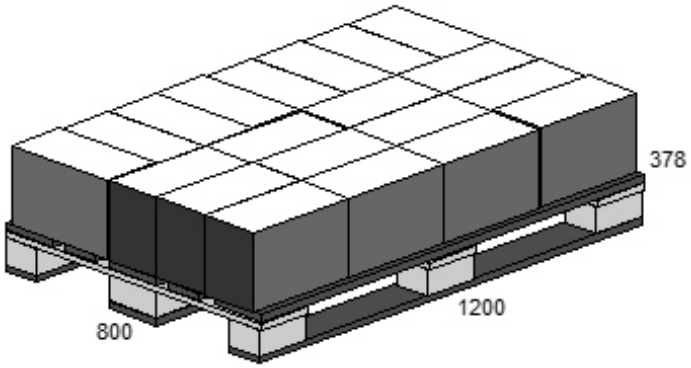
vrijdag 1 mei 2015

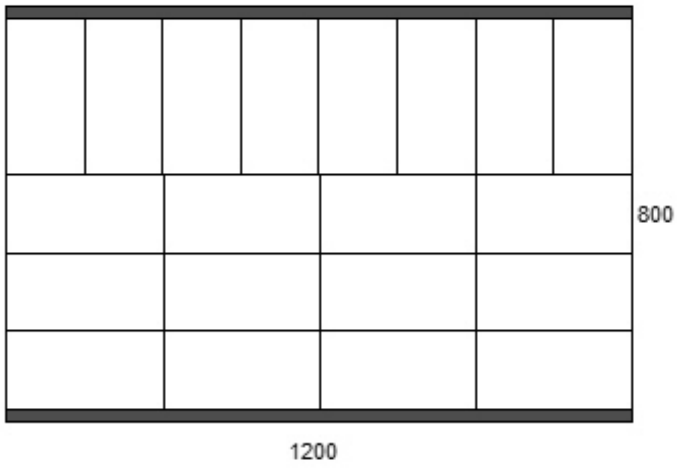
Product Name	Concept 4 - 8-pack
Product Code	6-pack
Datafile Name	concept 4 - euro 8pack (30-4-2015)
Load Ref.	2 I
Cube Used	88,2 %
Area Used	93,8 %
Pallet type	EURO4

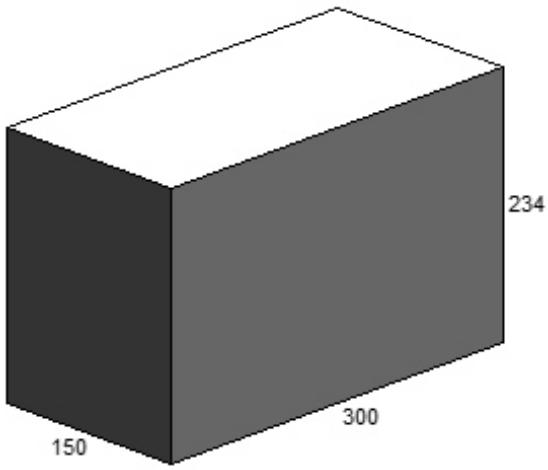
20	Box / Layer
5	Layer / Load
100	Box / Load

	Length	Width	Height		Net	Gross		Volume	
Box (OD)	300,0	150,0	234,4	mm	1,0000	6,1500	Kg	10548	cm^3
Product	1200,0	750,0	1172,0	mm	100,0000	615,0000	Kg	1,05	m^3
Load	1200,0	800,0	1316,0	mm	615,0000	639,0000	Kg	1,26	m^3
Overhang	0,0	-25,0		mm					









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