

UAB "RETAL Lithuania"

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Preform Specification

Preform type:	18.5g PCO	20.5g PCO	24g PCO	24g PCO	26.5g PCO	30g PCO	32g PCO
Number of mould:	007A	NB-12	007A	NB-34	NBG-26	NBG-16	NBG-16
Color:	Clear	Clear	Black(25)	Clear/ Brown(51)/ White(96)	Clear	Black(26)	Clear/ Black(26)/ Brown(50)/ Brown(51)/ White(96)
Additive:	-	-	slip	-	-	-	-
Preform type:	33g PCO	33g PCO	33g PCO	36g PCO	39g PCO	39g PCO	40g PCO
Number of mould:	NBG-22	NBG-22	NBG-04	NBG-03/ 022A	NBG-04	022A	039A
Color:	Clear	Red(86)	Black(26)	Clear/ Green(30)	Black(26)	Blue(09)/ Blue(105)	Blue(09)/ Silver(94)
Additive:	-	slip	-	-	-	-	-
Preform type:	41g PCO	43g PCO	47g PCO	47g PCO	48g PCO	52g PCO	22g OIL
Number of mould:	039A	NB-42	038A	038A	NBG-02	NB-15	NB-32
Color:	Blue(09)/ Blue(105)	Clear	Red(86)	White(96)	Silver(91)	Clear	Clear
Additive:	-	slip	slip	-	-	slip	-
Preform type:	21.5g MILK	28g MILK	35g MILK	73g W	85g W	91g W	145g W
Number of mould:	NBG-07	NB-20	NB-20	008A	NB-41	NB-41	NB-29
Color:	Clear/ White(96)	Clear/ White(96)	Clear/ White(96)	Clear	Clear	Clear	Clear/ Blue(105)
Additive:	-	-	-	-	-	-	-

Date: 14-04-2016

 Producer: Retal Lithuania, JSC
 Address: Fabriko14B, LT-25121 Lentvaris

1. Product Application

Intended for blowing the PET bottles in the food industry companies. PET bottles may be used to dispense the water, carbonated drinks with CO₂ content of 8g/l (if will be used higher than 8 g/l carbonated water, the client should test bottle for suitability carbonization), non-carbonated drinks (lemonades), fruit or vegetable juices (natural or concentrated), as well as alcoholic drinks of 5-20% volume, of room temperature or lower temperature.

2. Resin and Additives		
	Name of Resin/Additive	Producer
PET resin	NEOPET 80	JSC Neogroup, Lithuania
	Neopet FR82	
	Neopet FR84	
	RamaPet N180	Orion Global PET Klaipeda, Lithuania
Color	Clear	-
	Blue(09)/ Blue(105), Alto blue-3	POLYONE CORPORATION ColorMatrix Europe Ltd.
	Black(25)/ Black(26), Dye Black-3	
	Silver (91), Moon Silver-6	
	White(96), Linen White-18	
	Red(86), HCA 263-10-12735	HOLLAND COLOURS Europe BV
	Green(30), HCA 131.5115	
	Brown(50)/ Brown(51), Clariant FE81075512LF	Clariant Masterbatches S.p.A.
	Silver(94), Clariant NTS30501133-MN	
Additive	Slippery, Cesa Slip FEA0075503LF	Clariant Masterbatches S.p.A.
3. Coding /Packaging/ Logistics		
Coding	Every preform is marked with letters NB, NBG or RETAL between thread and support ring. The first number is number of mold, next number is number of cavity. Each octabin/metal container is labeled.	
Packaging	Metal containers and octabins are reusable. We resume empty metal containers. Full loaded truck contains 182 empty metal containers.	
Transportation and Logistics	<p>Each truck must be load with "palletized units" or packed in metal containers. The octabins on pallets or metal containers must be positioned to allow the loading and unloading with forklifts. Each truck contains 52 octabins or metal containers.</p> <p>Transport must be carried out under the best hygienic and technical conditions to ensure proper conservation of packaging, able to prevent dirt, moisture and any possible damage.</p> <p>The transport must be carried out with covered vehicles.</p> <p>Packed PET preforms must be kept within original containers – octabins or metal containers, in a covered and well-aired store with temperature extremes exclusion, sheltered from direct sunlight and humidity, and far from sources of foreign smell.</p> <p>Storage and use requirements:</p> <ul style="list-style-type: none"> ▪ 3 stacks for cardboards – palletized octabins in dry area (humidity impacts the cardboard crash resistance); ▪ 4 stacks for metal containers. If you assume responsibility, you can storage up to 6 stacks for metal containers. Storage of goods in containers weighing more than limit to stack danger of collapsing. ▪ inventory management with the FIFO method; ▪ temperature not below 5°C (with temperature extremes exclusion) and it is a strict recommendation for usage in the blowing area - before usage keep in ambient blowing area temperature - at least to reach ambient blowing area temperatures for performs. <p>Usage: IMPORTANT to follow up!</p> <p>Before usage it is strictly recommended to use preforms in the blowing process not below the blowing area temperature. It is important to recognize if the used preforms temperature is insufficient (below or equal +15°C) during the blowing process the difference would be required to compensate with the increased blowing machinery heating lamps temperature.</p>	

4. Heavy metals data in the Resin			
Heavy Metals	Content	Notes	
Lead	Not applicable	Intentionally do not use	
Cadmium			
Mercury			
Germanium			
Titanium			
5. Data of the overall migration in the bottle			
Method: 10 days, Temperature 40°C			
NEOPET 80			
	<u>3% Acetic acid</u> (mg/dm ²)	<u>50 % Ethanol</u> (mg/dm ²)	<u>Olive Oil</u> (mg/dm ²)
1	0.0	1.1	0.0
2	0.9	0.8	0.0
3	0.4	0.3	0.0
4	-	-	0.1
Average:	0.4	0.7	0.0
Limit:	10	10	10
NEOPET FR82 / FR84			
	<u>3% Acetic acid</u> (mg/dm ²)	<u>50 % Ethanol</u> (mg/dm ²)	<u>Olive Oil</u> (mg/dm ²)
1	1.1	1.0	0.3
2	1.2	0.5	0.0
3	0.5	0.0	1.1
4	-	-	0.8
Average:	0.9	0.5	0.6
Limit:	10.0	10.0	10.0
6. Data of the Specific migration in the bottle			
NEOPET 80			
Monoethylenglycol	MEG+DEG ist 30 mg/kg	<6.2 mg/kg	
Diethylenglycol			
Terephthalic acid	7.5 mg/kg	<0.8 mg/kg	
Isophthalic acid	5.0 mg/kg	<0.8 mg/kg	
Antimony	0.04 mg/kg (i.e. 40ppb)	6.6 ppb	
NEOPET FR82 / FR84			
Monoethylenglycol	MEG+DEG ist 30 mg/kg	<6.2 mg/kg	
Diethylenglycol			
Terephthalic acid	7.5 mg/kg	<0.8 mg/kg	
Isophthalic acid	5 mg/kg	<0.8 mg/kg	
Antimony	0.04 mg/kg (i.e. 40ppb)	8.6 ppb	
RamaPet N180			
Monomer	CAS number	SML	
Terephthalic acid (PTA)	000100-21-0	7.5 mg/kg	
Isophthalic acid (IPA)	000121-91-5	5.0 mg/kg	
Monoethylenglycol (MEG)	000107-21-1	MEG+DEG ist 30 mg/kg	
Diethylenglycol (DEG)	000111-46-6		
Antimony trioxide	0001 309-64-4	0.04 mg/kg	
Alto Blue-3			
All the additives/constituents are listed without SMLs.			
Moon Silver-6			
Additive 1 is listed in European Commission regulation 10/2011(as amended) with a SML of 0.05 mg/kg			
Additive 2 is listed in European Commission regulation 10/2011(as amended) with a SML of 60.00 mg/kg			
Additive 3 is listed in European Commission regulation 10/2011(as amended) with a SML of 5.00 mg/kg			

<u>Linen White-18</u>			
Additive 1 is listed in European Commission regulation 10/2011(as amended) with a SML of 5.00 mg/kg.			
<u>Dye Black-3</u>			
All the additives/constituents are listed without SMLs.			
<u>HolcoPET Red 263-10-12735</u>			
Contains no Non Colorant Ingredients for which a Specific Migration Limit (SML) has been established.			
<u>Holcobatch Green 131.5115</u>			
Contains no Non Colorant Ingredients for which a Specific Migration Limit (SML) has been established.			
<u>Cesa slip FEA0075503-LF</u>			
Hazardous Substances	Directive Limits (Tolerated)	Content in the Product	
Lead	< 0,1 %	< 0,1 %	
Hexavalent chromium	< 0,1 %	< 0,1 %	
Mercury	< 0,1 %	< 0,1 %	
Cadmium	< 0,01 %	< 0,01 %	
Polybrominated biphenyls (PBB)	< 0,1 %	< 0,1 %	
Polybrominated diphenyl ethers (PBDE)	< 0,1 %	< 0,1 %	
<u>Clariant silver NTS3050133-MN</u>			
Hazardous Substances	Directive Limits (Tolerated)	Content in the Product	
Lead	< 0,1 %	< 0,1 %	
Hexavalent chromium	< 0,1 %	< 0,1 %	
Mercury	< 0,1 %	< 0,1 %	
Cadmium	< 0,01 %	< 0,01 %	
Polybrominated biphenyls (PBB)	< 0,1 %	< 0,1 %	
Polybrominated diphenyl ethers (PBDE)	< 0,1 %	< 0,1 %	
<u>Clariant Brown FE81075512-LF</u>			
Hazardous Substances	Directive Limits (Tolerated)	Content in the Product	
Lead	< 0,1 %	< 0,1 %	
Hexavalent chromium	< 0,1 %	< 0,1 %	
Mercury	< 0,1 %	< 0,1 %	
Cadmium	< 0,01 %	< 0,01 %	
Polybrominated biphenyls (PBB)	< 0,1 %	< 0,1 %	
Polybrominated diphenyl ethers (PBDE)	< 0,1 %	< 0,1 %	
7. Physical Parameters			
Physical Parameter	Specification	Method	Notes
Preform weight (g)	18.5 +/- 0.2 20.58 +/- 0.3 24 +/- 0.3 26.29 +/- 0.3 30 +/- 0.3 31.8 +/- 0.3 33 +/- 0.3 36_36.3 +/- 0.4 38.75_39 +/- 0.4 40 +/- 0.4 41 +/- 0.4 43 +/- 0.4 46.7 +/- 0.4 48 +/- 0.4 51.7 +/- 0.5 21.9 +/- 0.3 21.5 +/- 0.3 28 +/- 0.3 35 +/- 0.4 73 +/- 0.73 85 +/- 0.8	Scale	

	91 +/- 0.9 145.1 +/- 1.5		
Preform dimensions	According drawing		
Neck finish	Ø28mm 1 start PCO 1810; Tip W preform 3 start; Bericap 38 3 start; Eurostandart 29/21;		
Preform IV – Deviation	Max -0,02dl/g from PET-Material	ASTM 4603	<i>It is measured in our laboratory</i>
Acetaldehyde Standard Preform	Not exceed 10 ppm	Ground-Method	<i>It is measured in our laboratory.</i>
Gate nub	Not exceed 3 mm		
Crystallinity in the gate	Not exceed 1/3 of bottom width	visual	
Pin hole in the gate	Critical defect	visual	
Wall thickness variation	Not exceed 0.2 mm	Magnetic field (Equipment MBT -7001)	
Oval thread	Critical defect	Template	
Flash	Not exceed 0.125 mm	By touch/microscope	
Inclusions	>0.6mm – max 0.3% 0.3-0.4 mm – max 5%	Visual, magnifier	
Bent preforms	Axial deviation not exceed : 1,20mm (preform length <125,5mm) 1,75mm (preform length >125,5mm)	Magnetic field (Equipment MBT -7001)	
Air bubbles	none	visual	
Haziness	none	visual	
Unmelts	none	visual	
Short shot	none	visual	
<i>PET preforms shelf life</i>			
PET preforms (clear, colored, with AA scavenger, with UV-filter, with slipper)		12 month	Product older than 12 month may be sold only with client assent
8. Conformity to EU law requirements			
Conformity for food contact	<p>Preforms and bottles made from it to be used in contact with foodstuff for human consumption.</p> <p>The product doesn't contain any hazardous materials such as heavy metals, asbestos, etc.</p> <p>The product herewith complies with the essential requirements of EU laws: 10/2011/EEC 1935/2004/EEC 2023/2006/EC 90/128/EEC 282/2008/EC 85/572/EEC 82/711/EEC 94/62/EC with all amendments.</p> <p>In PET preforms production we do not use any restricted substances listed on Directives 2008/60/EC, 95/45/EC and 2008/84/EC.</p>		
9. Additional documents			
<ol style="list-style-type: none"> 1) Preform drawing 2) Safety data sheet of the resin 3) Safety data sheet of the colorants 4) Safety data sheet of the additives 			

Renata Šmatavičienė
Quality Manager