

E-proPLAST GmbH



E-PROPLAST GmbH



THE COMPANY E-proPLAST GMBH

The bottles produced by E-proPLAST GmbH are used for various products such as brand name products and private label applications.

COSMETICS



DETERGENTS & CHEMISTRY



BOTTLES FOR COLD FILLING OF FOOD STUFF, HONEY, SAUCES, BEVERAGES





**BOTTLES FOR
HOT FILLING**



CLOSURES



PREFORMS

... was founded in 1998 in the historic half-timbered town Schmalkalden in Thuringia / Germany.



As a medium sized enterprise we are specialized in the development and production of PET-packaging. Besides a wide range of free available standard bottles, the centre point of our activities is the production of individual designed customized bottles.

After finishing the last construction stage in 2016, we'll have achieved a production and storage area of about 10.000m². Our modern production facility has a capacity of more than 150 million bottles per year.

THE MATERIAL - PET

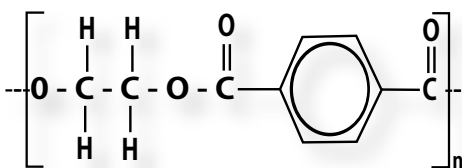


Polyethylente-rephthalat (PET) is a thermoplastic resin and belongs to the family of polyester. The resin is produced by polycondensation. Like all polymers, the material PET contains the building

chains of monomers called "macromolecules".

Due to polymerisation these monomers are joined to each other and formed into a polymer. Unlike most other polymers PET has the capability to be strain hardened through the stretch-blow moulding process. Through this process the rigidity as well as the barrier properties of the material is increased.

In comparison to other polymers such as polypropylene (PP) and high-density polyethylene (HDPE) the barrier property of PET is much better. Due to the use of additives such as Scavenger the barrier property against oxygen can be improved additionally. Blown as a bottle, PET is a transparent material like glass.

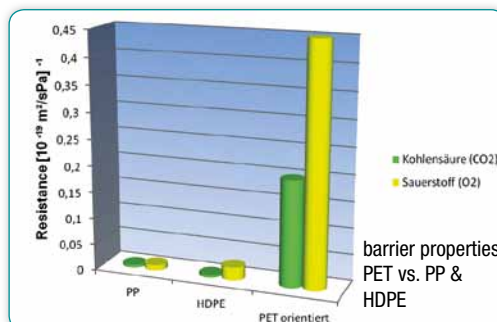


PET bottles are extremely light and literally unbreakable. These kinds of bottles are very safe to handle. The glass transition temperature of PET is in the range of 74°C. Due to the heat set process, developed by E-proPLAST, the glass transition temperature will be increased and therefore hot liquids like fruit juice and sauces can be filled in such PET hotfill bottles.

The resin PET is produced without a softening agent. Also no Bisphenol-A (BPA) is used for the manufacturing of PET. Therefore no dangerous particles can migrate into the bulk material.

Also it is possible to increase the protection against harmful UV-radiation with additives. Due to adding color such as master batches a wide range of color mix can be offered.

The material PET can be recycled 100%. Due to the installed deposit machines the current rate of recycling of PET single serve bottles in Germany is in the range of 98,5 %. Therefore PET is the most often recycled packaging material. Beside new bottles also fibers for the textile industry can be produced out of the recycled material.



These are all good reasons why PET packaging is environmentally friendly and why PET has a worldwide leading position in the packaging industry.

DESIGN – DEVELOPMENT AND MOULD MAKING

One-stop shopping – we offer a complete service consisting of

- bottle development & design
- mould design
- mould making
- production

out of a single source. Due to our modular mould concept ECOSHELL we are able to offer individual moulds for a low price with short delivery time.

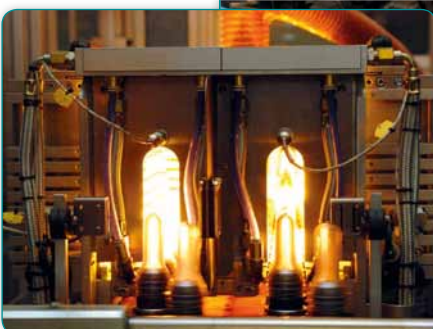


**FROM THE IDEA
TO REALITY**



PRODUCTION

PET preforms and bottles are produced with state of the art production equipment. Predominately two stage stretch-blow moulding equipment is utilized. With this kind of technique it is possible to optimize the both production processes independently from each other.



QUALITY MANAGEMENT / INDUSTRIAL HYGIENE MANAGEMENT



E-proPLAST is certified according to DIN ISO 9001:2008.

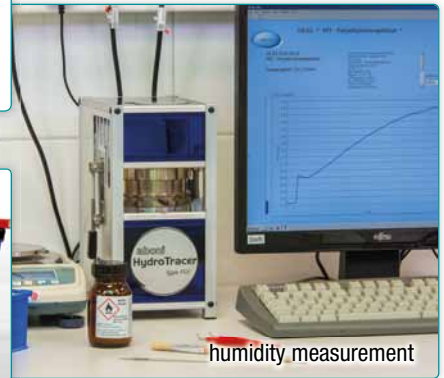
Also we are certified according to the industrial hygienic management HACCP-concept (Hazard Analysis and Critical Control Points).



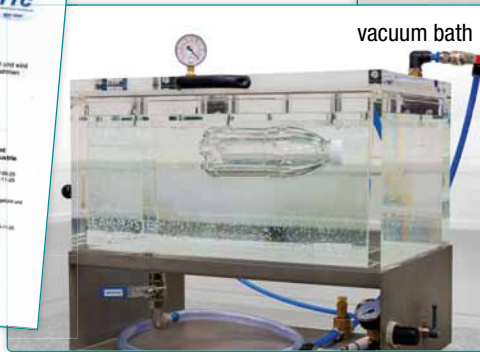
climate chamber



Control of preforms



humidity measurement



vacuum bath



GKV-CODE OF CONDUCT

In particular for medium sized enterprises compliance issues are becoming increasingly important. The risk of not implementing rules of conduct is too great for companies. They can damage their image and go as far as to threaten claims of compensation all the way to criminally liable consequences.

At the same time the requirements for enterprises for corporate and social responsibilities are increasing. The organization of the E-proPLAST GmbH is submitted to the GKV Code of Conduct and has been certified accordingly.

The GKV Code of Conduct is integrating conduct requirements as well as ethical and social principals. This fundamentally rules against corruption and anti-trust-consultations but also international rules such as the UN-human-rights-policy as well as other known ethic conventions.



SUSTAINABILITY

As a family owned company we live a value-based management structure. Of very high importance for us are

- Security of our workplaces and increasing of the satisfaction of our personnel
- Constant improving and optimization of our production flow process
- Efficient use of resources due to avoidance of scrap and circular flow economy
- Ongoing improvement of energy efficiency due to investment in state of the art machinery and engineering
- Development of innovative products due to a very high level of R&D
- Optimal use of earned capital due to permanent reinvesting

USE OF RECYCLATE ...

Due to the unique German deposit system for PET beverage bottles, PET is the raw material with the highest recycling rate within Germany. Almost 99% of the bottles are returned and fed back to the bottle production after the recycling process.

We are able to produce almost every bottle with an amount of recycling material. However we recommend an amount not exceeding 50%.

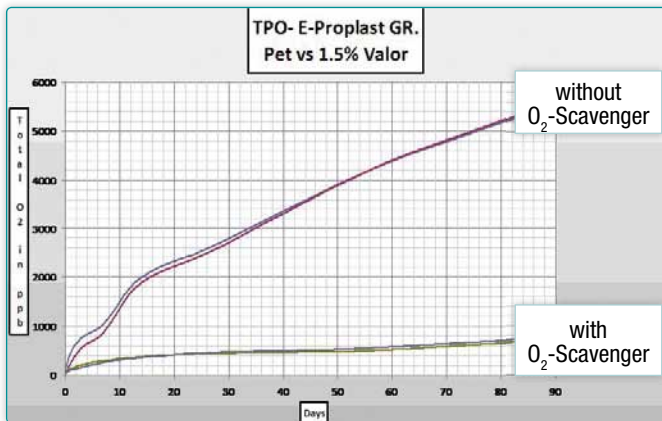
THE CLOSED LOOP RECYCLING CHAIN DUE TO USE OF RECYCLATE.



... WE ARE PARTICIPATE!



PROTECTION AGAINST OXYGEN (O₂)



In particular with fruit beverages the penetrating of oxygen can lead to an oxidation of the content. Shelf life can be shortened due to this effect.

To reduce the penetration of oxygen we are able to add a so-called O₂-Scavenger.

oxygen scavenger: comparison PET-monolayer to PET with 1,5% oxygen scavenger. Measurement with PET bottle 330ml, 21,5g.

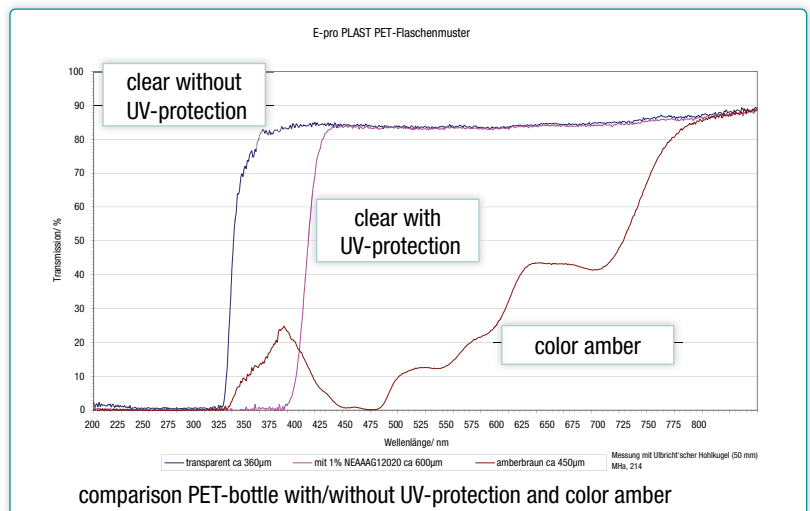
PROTECTION AGAINST UV-RADIATION

Ultra-violet radiation is invisible to the human eye. Energy intensive radiation up to 380 nanometers wavelength can damage or change the packaged ingredients.

As shorter the wave length, as greater is the biological effect. UV radiation can break organic bonds. UV radiation with higher wavelength can also destroy chemical bonds of organic molecules.

With colored liquids this can lead to discoloration.

If such sensitive products should be filled, the penetration of UV-radiation can be prevented by addition of an UV-protective additive.



comparison PET-bottle with/without UV-protection and color amber

COLORED PET-BOTTLES

We fulfill customer requirements! Choose your preferred color – and send us your inquiry.



READY LABELED PET-BOTTLES



We are able to label round shaped bottles.



PET-BOTTLES CLOSED WITH SCREW CAP



In hospitals and many public facilities water dispensers are installed. We provide suitable bottles for these cases!

To guarantee optimum hygiene the bottles are closed with a cap immediately after blowing.

The sealed bottles prove the patient or customer that nobody had used the bottle before.



product-finder PET-bottles

page	standard bottles	volume (ml)													
		10	20	30	50	75	100	150	200	250	300	500	750	1000	
11	customized bottle design														1
13	round bottles														2
14	TALL BOSTON round			X	X		X	X	X	X	X				
14	OPTIMAX								X	X	X				
14	EproPHARM						X	X							
15	BOSTON round									X	X	X		X	
15	BOSTON round Serie 28 FM-DW											X			
15	BOSTON round 500 ml MS											X			
16	TECHNO round													X	
16	ROUND fire													X	
16	EproBALL											X			
17	E-LiSmoke NEW!	X													
19	oval bottles														3
20	BASIC oval				X					X					
20	OPTIVAL									X					
21	SQUEEZI-Cosmetic								X	X	X				
21	SQUEEZI-A									X					
21	SQUEEZI-Slim									X					
22	EproSQUARE						X	X	X	X	X				
22	EproSWING						X	X	X	X	X				
22	DOMO											X			
23	EPOVAL											X			
23	SHORT OVAL											X			
23	EPOCLEAN											X			
24	Apothekerflasche											X			
24	FAMILY												X	X	
25	trigger spray bottles														4
26	ROSTOCK											X			
26	STRALSUND											X			
26	POTSDAM												X	X	
27	WEIMAR											X	X	X	
27	JENA NEW!											X	X	X	
27	BOSTON round											X		X	
29	bottles for food stuff, honey, sauces, beverages														5
30	SQUEEZI-honey (content in g)								250 g	350 g	500 g				
30	SQUEEZI-Slim									X					
30	SQUEEZI-A									X					
30	SQUEEZER oval 38-400									X					
31	EproJUICE							X		X	330 ml	X	X	X	
31	EproROUND									X					
31	EproSLIM									X					
32	EproWEIN								X				X		
32	Pocket bottle		X	X			X								
33	bottles for hot-filling														6
37	Panel-A-HF											X		X	
37	Ringflaschen-HF										330 ml	X		X	
37	Deli-HF									X		X			
38	EproJUICE-HF									X	330 ml	X	X	X	
38	TRANSWAVE-HF													X	
39	aerosol cans NEW!				X	X	X								7
41	closures														8
47	preforms														9

The compatibility between the filling contents and the packaging has to be proven by the filler.

1
2
3
4
5
6
7
8
9

individuelle Kundenformen
customized bottle design
Forme individuelle client



Individuelle Kundenflaschen customized bottle design / Bouteille individuelle client

Anfrageformular / Inquiry sheet / Questionnaire

Entwickeln Sie Ihre eigene Flasche. / Design your own bottle. / Créer votre propre bouteille.

Form / shape / Forme	rund / round / ronde	oval / oval / ovale
Ø mm		
B mm		
T mm		
H mm		
Gewinde Ø / thread Ø / Filetage Ø		
Gewindeform / thread form / Forme du Filet		

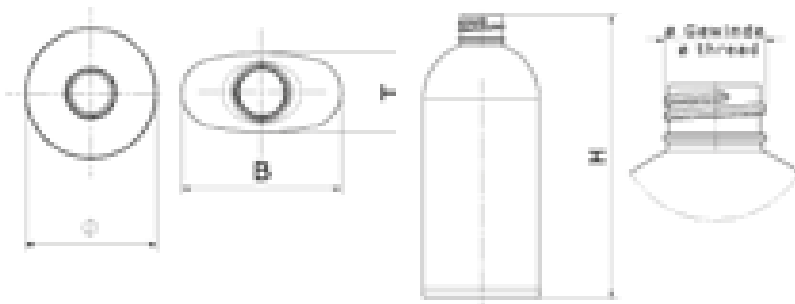
Bitte mit Ihren Wunschabmessungen ausfüllen / Please insert your desired dimensions: / Veuillez remplir les dimensions souhaitées.

Runde Form
round shape
Forme ronde

Ovale Form
oval shape
Forme ovale

Flaschenhöhe
bottle height
Hauteur bouteille

Gewinde
thread
Diamètre col



Anwendung / application / Application	
Kosmetik / cosmetics / Cosmétique	
Reinigungsmittel & Chemie / detergents & chemistry / Nettoyants & Chimie	
Lebensmittel / food / Alimentaire	
Honig / honey / Miel	
Saucen / sauces / Sauces	
Speiseöl / edible oil / Huiles	
Essig / vinegar / Vinaigres	
Ketchup	
Spirituosen / liquors / Spiritueux	
Wein / wine / Vin	
Fruchtsaft / fruit juice / Jus de fruit	
Milch / milk / Lait	
Mixed drink / Cocktail	
Softdrink / Boissons non alcoolisés	
Bier / beer / Bière	
Coldfill / Remplissage à froid	
Hotfill / Remplissage à chaud	

Zeichnen Sie Ihre Flasche. / Design your own bottle. / Dessinez votre bouteille.







Ihre Adresse / your address /
Votre adresse

Bitte ausfüllen und per Telefax an +49-3683-4071-130 oder per Mail an info@e-proplast.com.
Please fill in the form sheet and send it back by fax to +49-3683-4071-130 or by mail to info@e-proplast.com.
Veuillez compléter et envoyer par fax à +49-3683-4071-130 ou par mail à info@e-proplast.com

Rundflaschen
round bottles
Bouteilles rondes









TALL BOSTON round

 ml	30	50	100	150	200	250	300
 g	5,5	7,0	13	13	21	21	21
	20/410	20/410	24/410	24/410	24/410 24/415	24/410 24/415	24/410
 mm	28	33	38	42	46,5	49	51
 mm	76,6	87,1	122,5	148	153	168,5	184,5
	1; 2; 3; 9	1; 2; 3; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9









OPTIMAX

 ml	200	250	300
 g	21	21	21
	24/415	24/415	24/415
 mm	50	53	56
 mm	142	154,5	163,5
	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9









EproPHARM

 ml	100	150
 g	15	15
	PP 28	PP 28
 mm	46	50
 mm	95	112
	1	1









BOSTON round

 ml	250	300	500 ^(*)	1000
 g	21	21 24	29 (36)	39 (36; 42)
	28/410	28/410	28/410 28/415	28/410 28/415
 mm	60,9	67	70	77
 mm	125	125	170	263,5
	1; 2; 3; 4; 5; 6; 7; 8; 9; 10	1; 2; 3; 4; 5; 6; 7; 8; 9; 10	1; 2; 3; 4; 5; 6; 7; 8; 9; 10	1; 2; 3; 4; 5; 6; 7; 8; 9; 10









- (*)mit Warndreieck erhältlich
- (*)available with a warning triangle
- (*)disponible avec triangle d'avertissement

BOSTON round Serie 28 FM-DW

 ml	500
 g	29 (36)
	28 mm FM-DW
 mm	70
 mm	188,9
	1









BOSTON round 500 ml MS

 ml	500
 g	33
	28/410 MS
 mm	70
 mm	196,3
	15

Flasche für Mundspülung
Bottles for mouthwash
Bouteilles bains de bouche









TECHNO round

	ml	1000
	g	39 (36; 42)
		28/410
	mm	80
	mm	263,5
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10



ROUND fire

	ml	1000
	g	29,5
		28/410
	mm	84
	mm	237,5
		1; 2; 3; 4; 5; 6; 10







Zertifiziert von TÜV Halle gem. DIN EN ISO 8317: 2004-11 kindergesicherte Verpackung.

Certified from TÜV Halle according to DIN EN ISO 8317: 2004-11 child-safe packaging.

Certifié couple bouchon bouteille par Centre de Contrôle officiel selon Normes ISO DIN EN ISO 8317: 2004-11 Sécurité enfants emballages.









EproBALL

	ml	500
	g	29 (24)
		28/410 PCO 28
	mm	100,5
	mm	130
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10



E-LiSmoke

NEU / NEW
NOUVEAU








	ml	10
	g	2,3
	E-LiSmoke	
	mm	20,75
	mm	49,5
	6	



Ovalflaschen
oval bottles
Bouteilles ovales










BASIC oval

	ml	50	250
	g	7	21
		20/410	24/410 24/415
	mm	40	70
	mm	23,4	35
	mm	91	164,4 172,4
		1; 2; 3; 9	1; 2; 3; 7; 8; 9










OPTIVAL

	ml	250
	g	21
		24/415
	mm	72
	mm	36,5
	mm	162,4
		1; 2; 3; 7; 8; 9










SQUEEZI-Kosmetik / cosmetic / Cosmétique

	ml	200	250	300
	g	17	21	25
		25 mm snap-on	25 mm snap-on	25 mm snap-on
	mm	67	72	72,5
	mm	39,6	40	39,6
	mm	129,7	147,5	173,2
		11.1	11.1	11.1










SQUEEZI-A

	ml	250
	g	21
		25 mm snap-on
	mm	73
	mm	40
	mm	146,6
		11.1










SQUEEZI-Slim

	ml	250
	g	21
		25 mm snap-on
	mm	67
	mm	42,4
	mm	142,5
		11.1










EproSQUARE

 ml	100	150	200	250	300
 g	13	13	21	21	21
 24/410	24/410	24/410	24/410	24/410	24/410
 mm	39,6	43,5	47,6	50,0	52,2
 mm	39,6	43,5	47,6	50,0	52,2
 mm	96,2	113,3	127,8	140,5	152,0
	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9










EproSWING

 ml	100	150	200	250	300
 g	13	13	21	21	21
 24/410	24/410	24/410	24/410	24/410	24/410
 mm	47,8	50,2	55,5	56,6	58,0
 mm	37,1	42,0	45,0	48,7	51,6
 mm	96,2	113,3	127,8	140,5	152,0
	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9	1; 2; 3; 6; 7; 8; 9










DOMO

 ml	500
 g	24 (29)
 28/410	28/410
 mm	78,5
 mm	60,5
 mm	165
	1; 2; 3; 4; 5; 6; 7; 8; 9; 10










EPOVAL

	ml	500
	g	29 (24, 36)
		28/410
	mm	97,5
	mm	58,5
	mm	165
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10










SHORT OVAL

	ml	500
	g	24 (21)
		28/410
	mm	91
	mm	60/54
	mm	156,5
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10










EPOCLEAN

	ml	500
	g	24 (21)
		28/410
	mm	88,5
	mm	52
	mm	194
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10










Apothekerflasche

	ml	500	
	g	29	
		28/415 B 408	
	mm	80	
	mm	47,5	
	mm	210,5 216,5	
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10	



FAMILY

	ml	750	1000
	g	36 (39)	39 (42)
		28/410	28/410
	mm	95	97
	mm	55/43	64/53
	mm	254,5	260,5
		1; 2; 3; 4; 5; 6; 7; 8; 9; 10	1; 2; 3; 4; 5; 6; 7; 8; 9; 10



Sprühflaschen

trigger spray bottles

Pulvérisateur

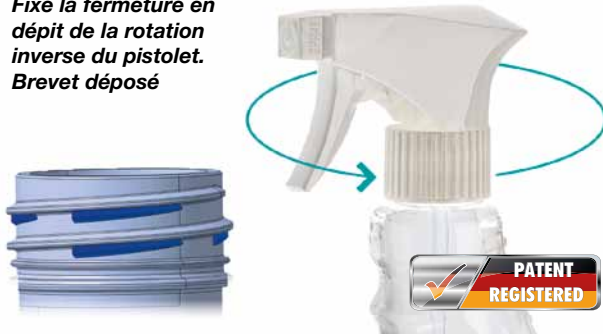


Spezialgewinde TRIGGERFIX special thread / Filetage spécial

Fixiert die Verschlusskappe trotz Rückdrehung der Sprühpistole.

Is fixing the cap in spite of counter clockwise turning of the trigger.

Fixe la fermeture en dépit de la rotation inverse du pistolet.
Brevet déposé



ROSTOCK

	ml	500
	g	29
		28/410
	mm	91
	mm	50
	mm	233,2
		1; 10



STRALSUND

	ml	500
	g	29
		28/410
	mm	90
	mm	50
	mm	231
		1; 10










POTSDAM

	ml	750	1000
	g	36 (39)	39 (42)
		28/410	28/410
	mm	95	95
	mm	59	69,5
	mm	254,5	260,5
		1; 10	1; 10










WEIMAR

	ml	500	750	1000
	g	29	36	39 (42)
		28/410	28/410	28/410
	mm	106	110	113
	mm	56	60	66
	mm	191	228	262
		1; 10	1; 10	1; 10









JENA

	ml	500	750	1000
	g	29	36	39 (42)
		28/410	28/410	28/410
	mm	98,7	113,9	123,1
	mm	51,5	60,9	68,6
	mm	221	235,4	283,4
		1; 10	1; 10	1; 10

**NEU / NEW
NOUVEAU**



BOSTON round

	ml	500	1000
	g	29 (36, 25)	39 (36; 42)
		28/410 28/415	28/410 28/415
	mm	70	77
	mm	170	263,5
		1; 10	1; 10










**Flaschen für Lebensmittel, Honig,
Saucen, Getränke für Kaltfüllung**

**bottles for food stuff, honey, sauces,
beverages**

**Bouteilles pour Alimentaire, Miel, Sauces,
Boissons pour remplissage à froid**



SQUEEZI Honig / honey / Miel

 ml	250 (*)	350 (*)	500 (*)
 g	17	21	25
 25 mm snap-on	25 mm snap-on	25 mm snap-on	25 mm snap-on
 mm	67	72	80
 mm	39,6	40	41,6
 mm	118,5	147,5	173,2
 11.1	11.1	11.1	11.1

(*) Füllmenge in g Honig
 (*) content in g honey
 (*) volume en g Miel








Skala beidseitig
 scale on both sides
 graduation des
 deux côtés



Membranventil / membrane valve










SQUEEZI-Slim

 ml	250
 g	21
 25 mm snap-on	25 mm snap-on
 mm	67
 mm	42,4
 mm	142,5
 11.1	11.1










SQUEEZI-A

 ml	250
 g	21
 25 mm snap-on	25 mm snap-on
 mm	73
 mm	40
 mm	146,6
 11.1	11.1






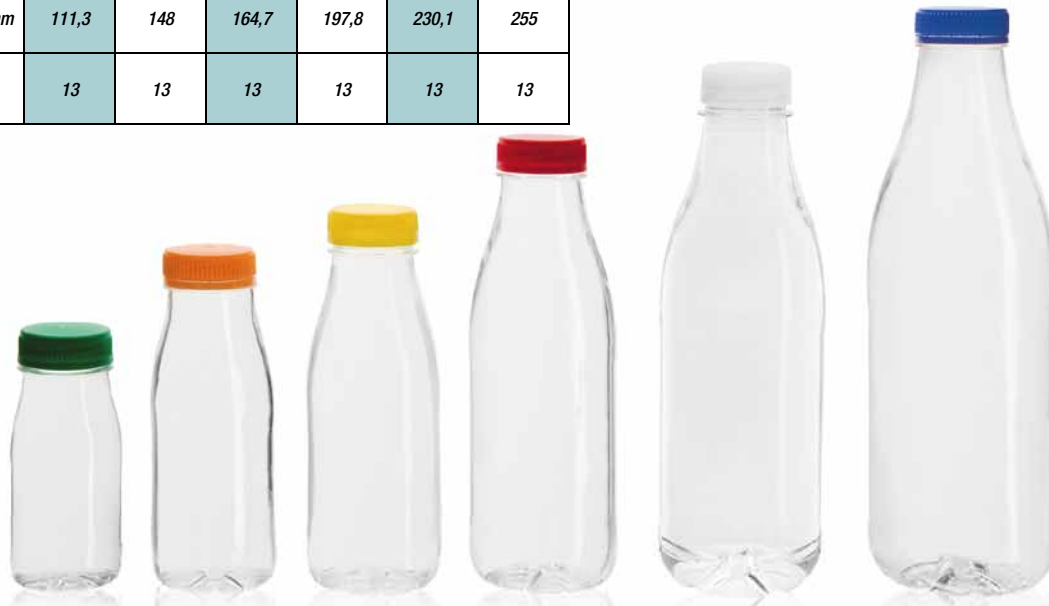
SQUEEZER oval 38-400

 ml	250
 g	21,5
 38-400	38-400
 mm	75,8
 mm	47,7
 mm	123,7
 12	12









EproJUICE

 ml	150	250	330	500	750	1000
 g	16	16	18	24 27	27 32,5	32,5 33
 38 mm 2-start	38 mm 2-start	38 mm 2-start	38 mm 2-start	38 mm 2-start	38 mm 2-start	38 mm 2-start
 mm	49	55	60	67	76	84
 mm	111,3	148	164,7	197,8	230,1	255
 mm	13	13	13	13	13	13









EproROUND

 ml	250
 g	18
 38 mm 2-start	38 mm 2-start
 mm	50
 mm	156
 mm	13



EproSLIM

 ml	250
 g	18
 38 mm 2-start	38 mm 2-start
 mm	55
 mm	164
 mm	13









Wir können PET-Flaschen für CSD, stille Getränke und andere Lebensmittel aus allen gängigen Preforms produzieren. PCO 28, PCO 1881, BPF 28, 38 mm 2-start & 3-start, 38-400, 30-25, 29-21 usw.. Darüber hinaus verfügen wir über Spezialpreforms für die Produktion von alkoholischen Getränken und Wein mit den Gewinden: BVP 28H38, ROPP 28, BVS 30H.

We are able to produce PET-bottles for CSD-beverages, flat water and other kind of food stuff out of common preforms with neck finish such as PCO 28, PCO 1881, BPF 28, 38 mm 2-start & 3-start, 38-400, 30-25, 29-21 etc.. Beyond that, we have special preforms for alcoholic beverages and wine with thread BVP 28H38, ROPP 28, BVS 30H.








Nous pouvons produire des bouteilles en PET pour boissons gazeuses, eaux plates et autres produits à partir de toutes préformes. PCO 28, PCO 1881, BPF 28, 38mm 2-start & 3-start, 38-400, 30-25, 29-21 etc.. Par ailleurs, nous disposons de préformes spéciales réservées aux boissons alcoolisées et vin avec un col BVP 28H38, ROPP 28, BVS 30H.

EproWEIN

	ml	200	750
	g	17,5 21; 24	49
		ROPP28	BVS 30H PCO 28
	mm	56	75,6
	mm	138	265
		1	1



Taschenflasche / pocket bottle / Bouteilles de poche

		oval / oval / ovale			rund / round / ronde	
	ml	20	30	100	20	30
	g	7	7	15	7	7
		ROPP 18	ROPP 18	ROPP 28	ROPP 18	ROPP 18
	mm	32,0	35,0	57,8	24,7	76,2
	mm	17,5	20,0	28,8		
	mm	71,2	80,2	110,0	76,2	88,2
		1	1	1	1	1



Flaschen für die Heißabfüllung
bottles for hot-filling
Bouteilles pour remplissage à chaud



PET hotfill

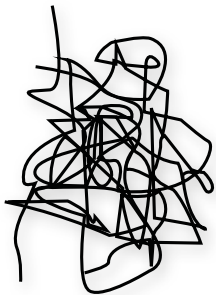
Hot filling is a very safe method of filling technology and has been known for many years. With hot filling for example fruit juices can be microbiologically filled safe. Existing equipment for filling glass bottles can be used with only low investment for the adaption of PET bottles. With less

than 50 million fillings per year the hot filling technology of PET bottles is a very economical alternative in comparison to cold aseptic filling.

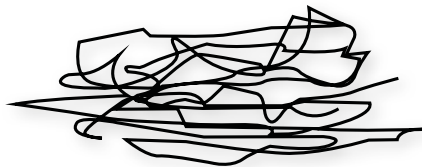
Material basics of PET hot filling process

- In a standard stretch-blow moulding process the bottle is blown into a chilled blow mould.
- The amorphous molecules structure from the preform will be changed due to the stretch blow moulding process in an oriented and stretched structure.
- When this structure is heated up to temperatures above 55°C the oriented macromolecules start to shrink uncontrollably and move back to the amorphous structure.
- With the heat set blowing process the resin is blown in heated blow moulds with temperatures of up to 150°C. Due to this process thermal crystallites will form inside the molecules structure. Therefore it is possible to fill such bottles with hot liquids avoiding uncontrolled shrinkage.

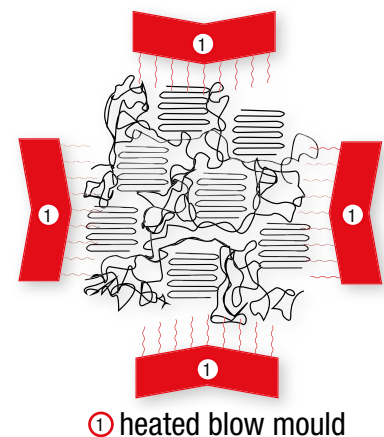
preforms =
amorphous structure



stretch blow moulding of coldfill bottles =
stress induced crystallinity

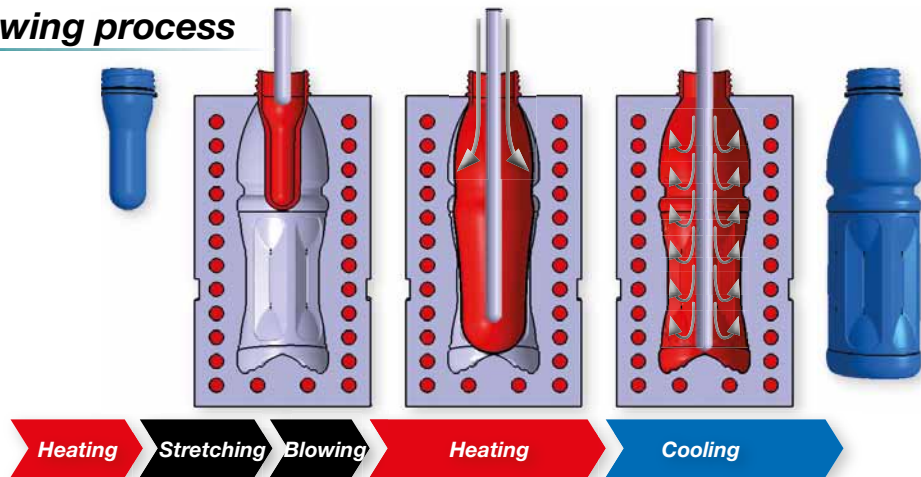


PET hotfill bottles =
thermal crystallinity



The PET hotfill blowing process

Unlike cold blown PET bottles, PET hotfill bottles are blown in very high heated moulds. After the bottles are readily blown, the geometry of the bottle is cooled by means of pressuring air.

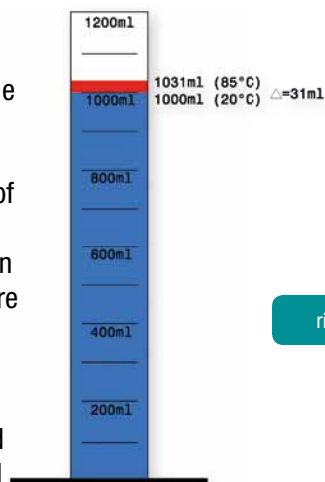


The PET hotfill bottle design

Cooling down 1000ml water, filled with 85°C to 20°C, the content will shrink with a volume of 31 ml.

With glass bottles this is not a problem as it will generate a kind of vacuum inside the bottle.

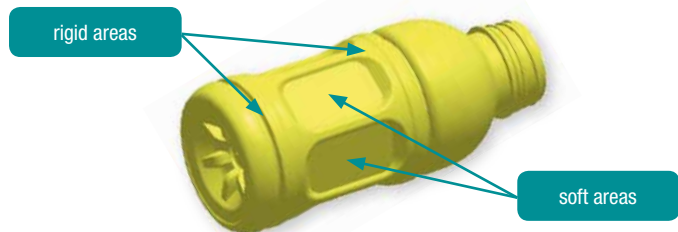
A PET bottle will be subject to an undesired deformation. Therefore conventional PET hotfill bottles are designed according to very specific principals: The body of the hotfill bottle consists of rigid and soft areas. Due to the panel structure around the bottle body



the panels can deform controlled due to the shrinkage of the filled liquid.

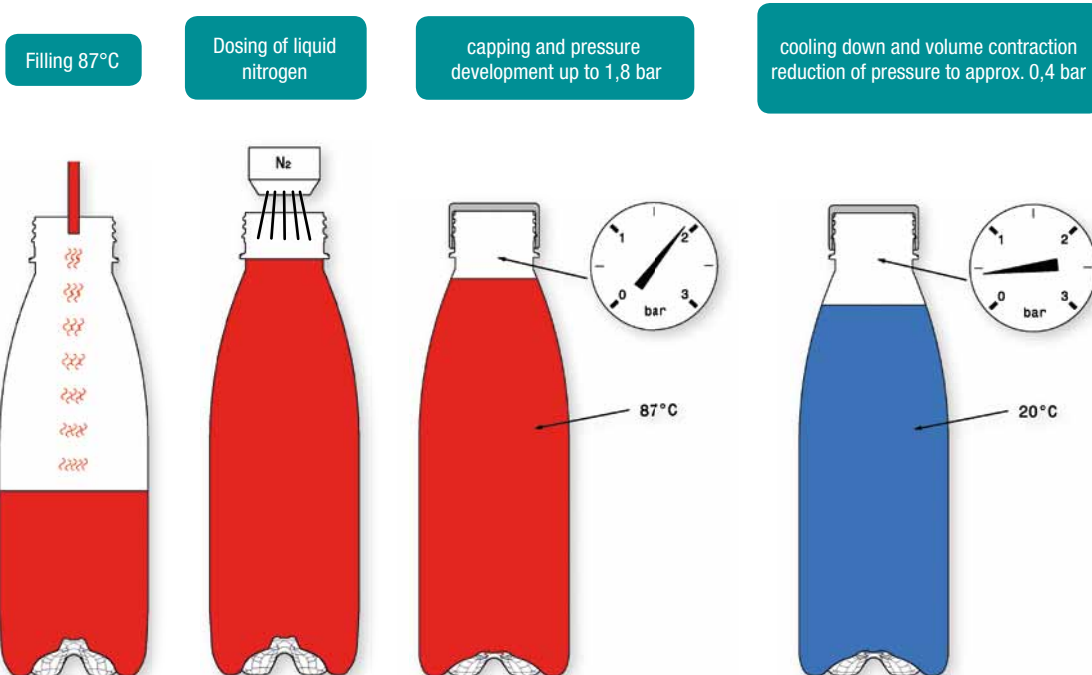
Disadvantage of conventional PET hotfill

- Difficult to label
- Fairly high bottle weight
- Form follows function - less freedom of design



The panelless PET hotfill technology (N2) – the approach –

Production of PET hotfill bottles with flat outside surface



the advantage of panelless PET hotfill technology

- the flat outside surface
- simple to label
- low bottle weight
- large freedom of design
- design like cold aseptic filled bottles



examples of individual panelless PET hotfill bottles

more applications for PET hotfill







To achieve microbiology correct filling of products the PET hotfill process is used in various fields, e.g.:

- sauces
- soups
- ketchup
- jam
- and many more




PET-Hotfill

Panel-A-HF

 ml	500	1000
 g	30	48
	38 mm Hotfill	38 mm Hotfill
 mm	65,5	85
 mm	219,1	245
	13	13










Ringflaschen-HF

 ml	330	500	1000
 g	30	41	48
	38 mm Hotfill	38 mm Hotfill	38 mm Hotfill
 mm	62	66	85
 mm	156,6	205,5	246,6
	13	13	13



Deli-HF

 ml	250	500
 g	21	32
	38-400	38-400
 mm	76,4	91
 mm	46,2	55
 mm	2x127	175
	12	12

PET-Flasche für die Heißabfüllung von Ketchup, Saucen & Sirup. Verschluss mit Membranventil.







PET-bottle for hot filling of ketchup, sauces & sirup. Closure with membrane valve.

Bouteille PET pour remplissage à chaud de ketchup, sauces et sirops. Fermeture avec membrane valve.









Panelless Hotfill

EproJUICE-HF

 ml	250	330	500	750	1000
 g	22,6	22,6	29,5	42,5	42,5
 38 mm Hotfill	38 mm Hotfill	38 mm Hotfill	38 mm Hotfill	38 mm Hotfill	38 mm Hotfill
 mm	55	60	67	75	84
 mm	154,6	172,7	208,6	231,1	271,4
 mm	13	13	13	13	13



TRANSWAVE-HF

 ml	1000
 g	42,5
 38 mm Hotfill	38 mm Hotfill
 mm	85
 mm	269,6
 mm	13




Aerosoldosen

aerosol cans

Aérosols

AEROSOL

	ml	50/75	75/110	150/210
---	----	-------	--------	---------

Abfüllung durch:
 bottling by:
 Remplissage par:
 TUNAP Cosmetics GmbH
 A-6175 Kematen

NEU / NEW
 NOUVEAU





Verschlüsse

closures

Fermetures



1

Schraubverschluss
screw closure / Fermeture à vis

	20/410	24/410	24/415
	CO / PL	CO / PL	CO / PL



1

Schraubverschluss
screw closure / Fermeture à vis

	28/410	28 FM-DW	28-0463
	CO / PL	CO / PL	CO / PL



1

Schraubverschluss
screw closure / Fermeture à vis

	ROPP 18	ROPP 28
	CO / LI / PL	CO / LI / PL



2

Klappdeckel
hinged flip top / Fermeture à clapet

	20/410	24/410	24/415	28/410	28/415
	CO	CO	CO	CO	CO



3

Kippdeckel
disc top / Couvercle basculant

	24/410	24/415	28/410	28/415
	CO	CO	CO	CO



3.1

Kippdeckel Doppelwand-A
disc top / Couvercle basculant double paroi

	28/410
	CO

passend für BOSTON round 300, 500 und 1000 ml
suitable for BOSTON round 300, 500 und 1000 ml
adaptés pour BOSTON round 300, 500 und 1000 ml



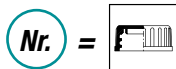
Legende Dichtung / Seal / Scellés:

CO: Konusdichtung / Cone / Cône d'étanchéité

LI: Einlage / Liner / Rondelle

PL: Einsatz / Plug / Insert

Andere Verschlüsse auf Anfrage / Other closures on request / Autre fermeture sur demande



4

Kipphebel
spout-cap / Bouchon levier verseur

	28/410
	CO



5

Push-pull

	28/410
	CO



6

2-teilig mit Rückdreh Sperre (KiSi)
child safe closure / Bouchon sécurité enfant Testé

	24/410	28/410	E-LiSmoke
	PL	CO / LI / PL	CO



7

Pilzverschluss
mushroom closure / Fermeture champignon

	24/415	28/410	28/415	28/B408
	CO / PL	CO	CO / PL	CO / PL



8

Seifenspender
dispenser / Distributeur de Savon

	24/410	24/415	28/410
	LI	LI	LI



9

Feinzerstäuber
sprayer / Vaporisateur

	20/410	24/415	28/410
	LI	LI	LI



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10


Sprühpistole
trigger-spray-pump / Pistolet de pulvérisation

	28/410
	Li



11.1

25 mm snap-on


	25 mm snap-on
	CO

mit und ohne Membranventil
 with and without membran valve
 avec et sans membrane



11.2

25 mm snap-on_SQ-A mit Originalität
25 mm snap-on_SQ-A with tamper evidence
25 mm snap-on_SQ-A avec originalité


	25 mm snap-on
	CO

mit Membranventil
 with membran valve
 avec membrane



12

Schraubverschluss mit Klappdeckel und Siegelfolie
Flip top screw on and sealing film
Bouchon vis avec clapet et film de scellage

	33 - 400
	Siegel / seal

mit und ohne
 Membranventil
 with and without
 membran valve
 avec et sans membrane



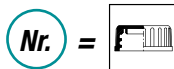
Legende Dichtung / Seal / Scellés:

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Andere Verschlüsse auf Anfrage / Other closures on request / Autre fermeture sur demande



13


Schraubverschluss mit Originalitätsband
screw-on with tamper evidence
Bouchon vis avec bande d'originalité

	38 mm 2-start	38 mm 2-gang Hotfill
	CO	LI



14

Verschluss Mundspülung
mouthwash-closure / Bouchon bains de bouche

	28 mm MS 2-start
	CO



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CO: Konusdichtung / Cone / Cône d'étanchéité

LI: Einlage / Liner / Rondelle

PL: Einsatz / Plug / Insert

Andere Verschlüsse auf Anfrage / Other closures on request / Autre fermeture sur demande




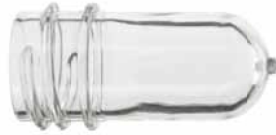


Preforms preforms Préformes



20/410

	g	5,3; 7
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


24/410

	g	13; 21,5
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28/410

	g	21; 24; 29,5; 36; 39; 42
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38-400

	g	21; 32
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ROPP28

	g	15; 17,5; 24
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


BVP28H38

	g	48
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


25 mm snap-on

	g	17; 21; 25
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27 mm snap-on

	g	21; 25,1
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38 mm 2-start

	g	16; 185; 24; 32,5
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28 mm MS 2-start

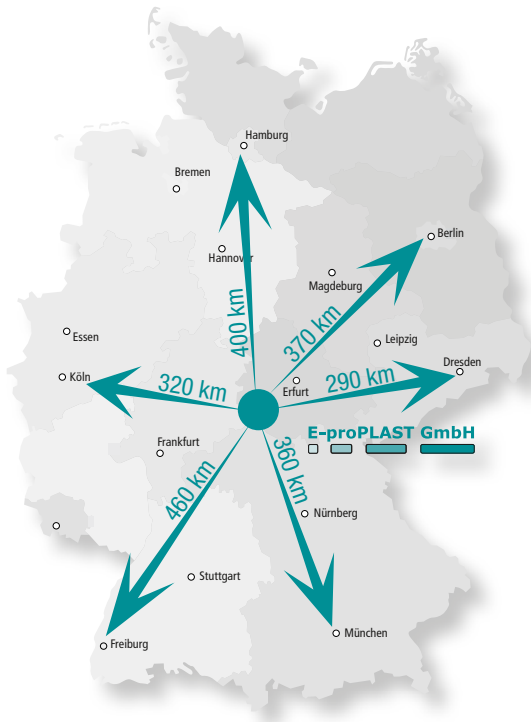
	g	33; 35
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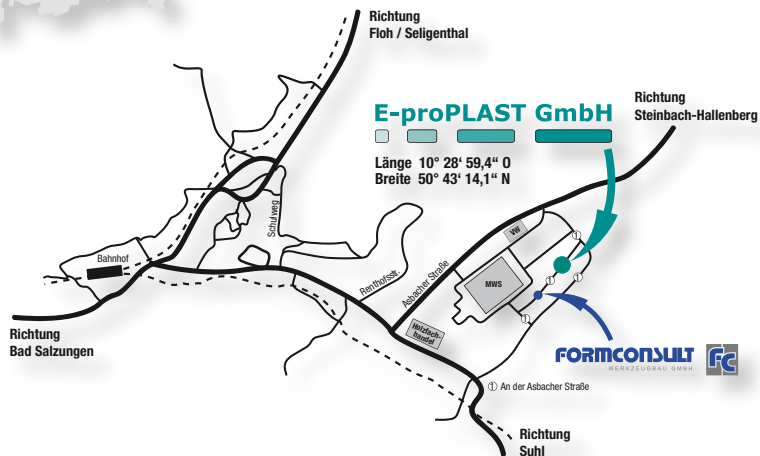
E-PROPLAST GmbH



Der Standort der E-proPLAST GmbH befindet sich im geografischen Zentrum von Deutschland. Das reduziert Transportwege und Kosten.

The location of E-proPLAST GmbH is geographically in the middle of Germany. This is reducing transport distances and costs.

Le site E-proPLAST se trouve géographiquement au centre de l'Allemagne. Ceci réduisant les distances et donc les coûts.



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