


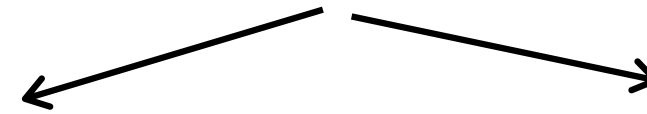
Provide the right closure

labrenta

Technical Presentation

THE PROCESS

 Client call/ mail and request

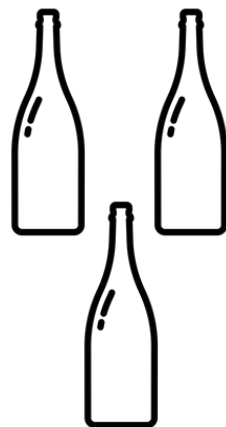
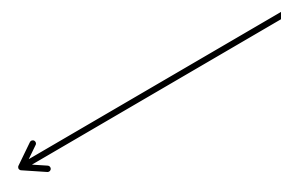


choose a standard product
from the **catalogue**



- head material/ size
 - stem material/ size
- } if the quantity
satisfies the MOQ

offer



providing with the technical
drawing of the bottle and at
least 3 samples of it



analysis of the bottles within
the laboratory to test if the cap
chosen is the right one

ask for a **special project**

collection on info about
general characteristics
and materials



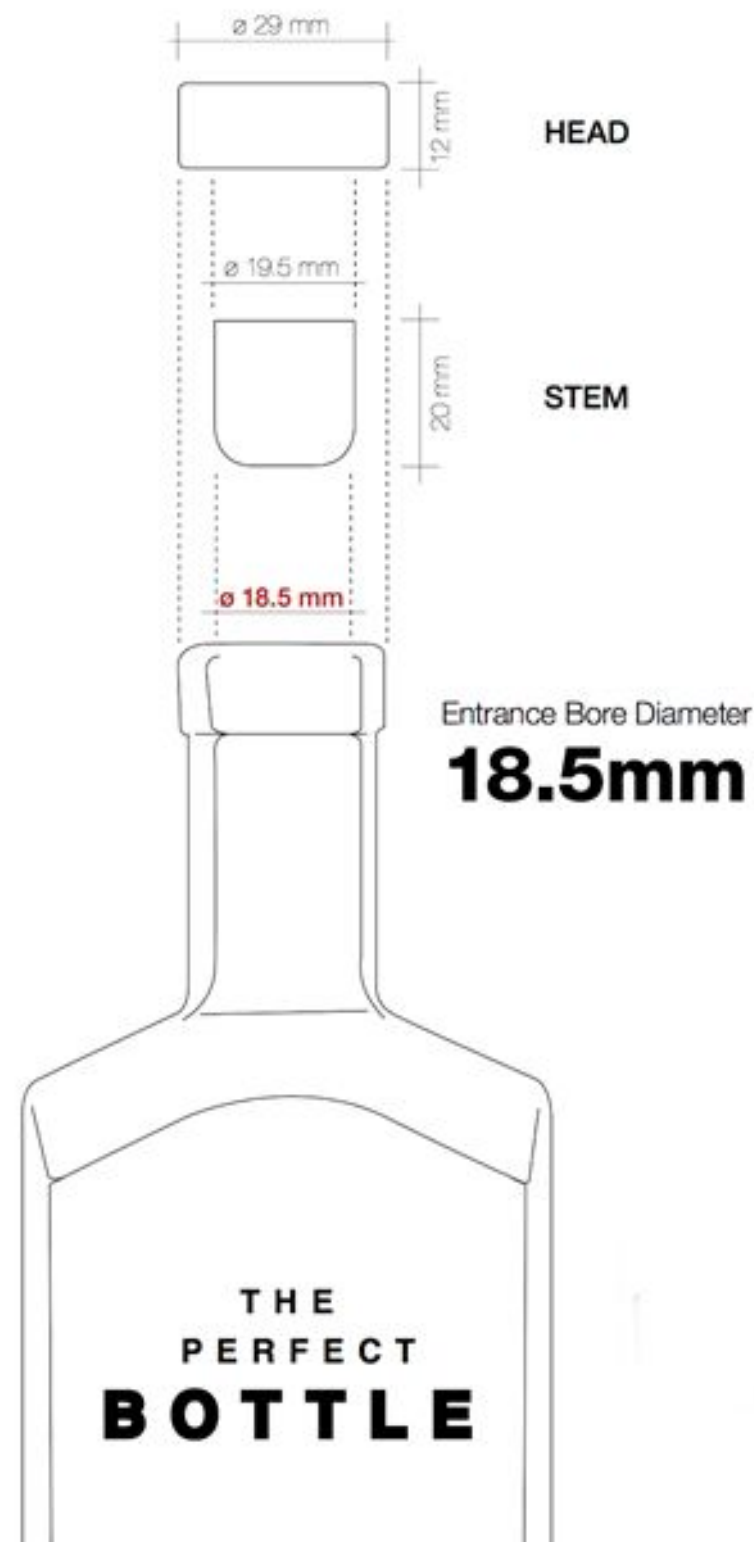
the request goes to the DIVISION,
our R&D office to evaluate the
project feasibility



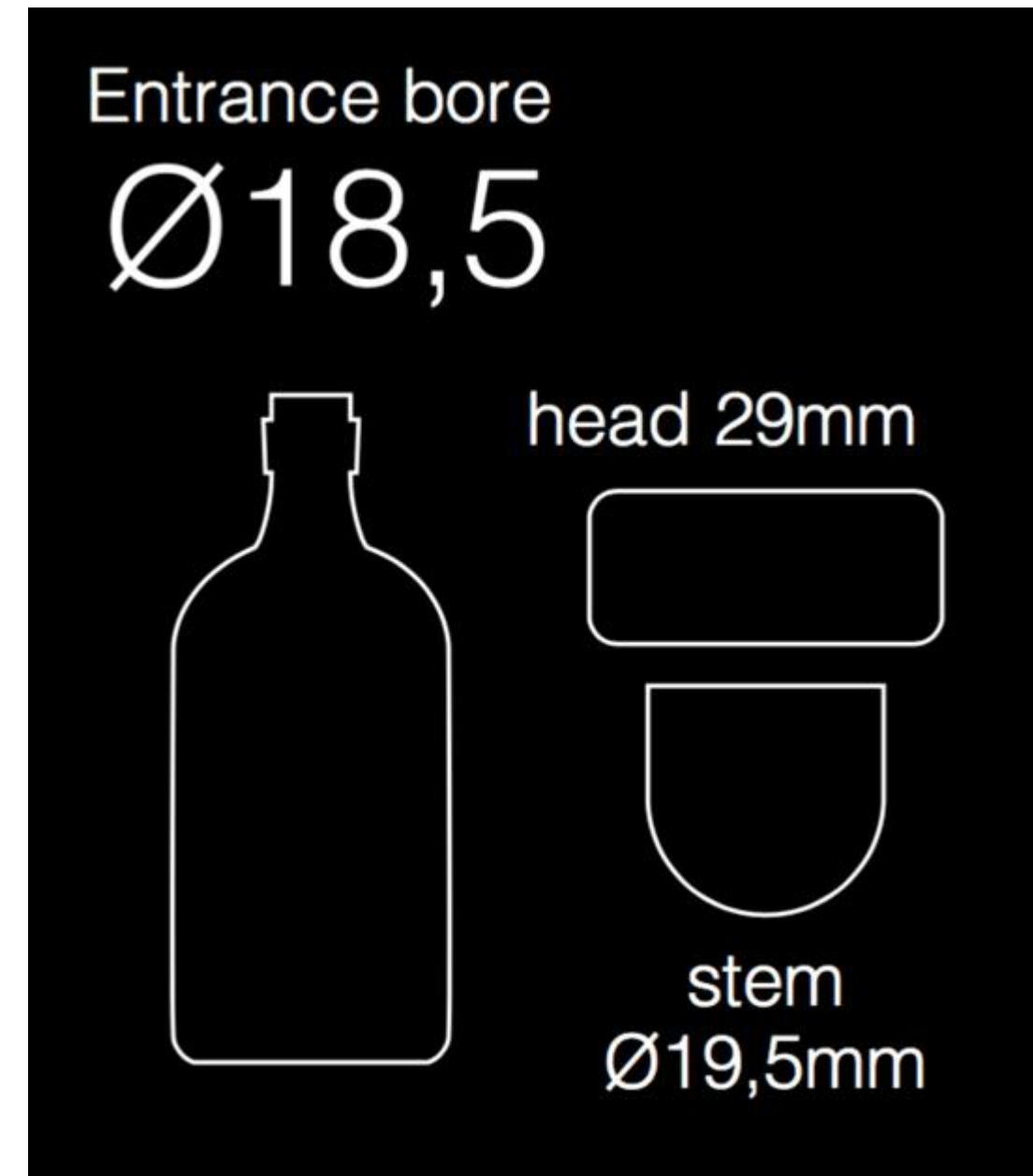
if ok, there is the offer

NB a special project will take an extra
time compared to standard products,
as we have to create it as a new piece

THE PERFECT BOTTLE AND FIT



Usually, a stem with a size 1 mm bigger than the entrance bore should be the right one, but sometimes the inner profile of the bottle is not perfect and flat. The best thing to do is making some tests in order to find the right size/closure



THE VALIDATION PROCESS

1 DATABASE CROSSING

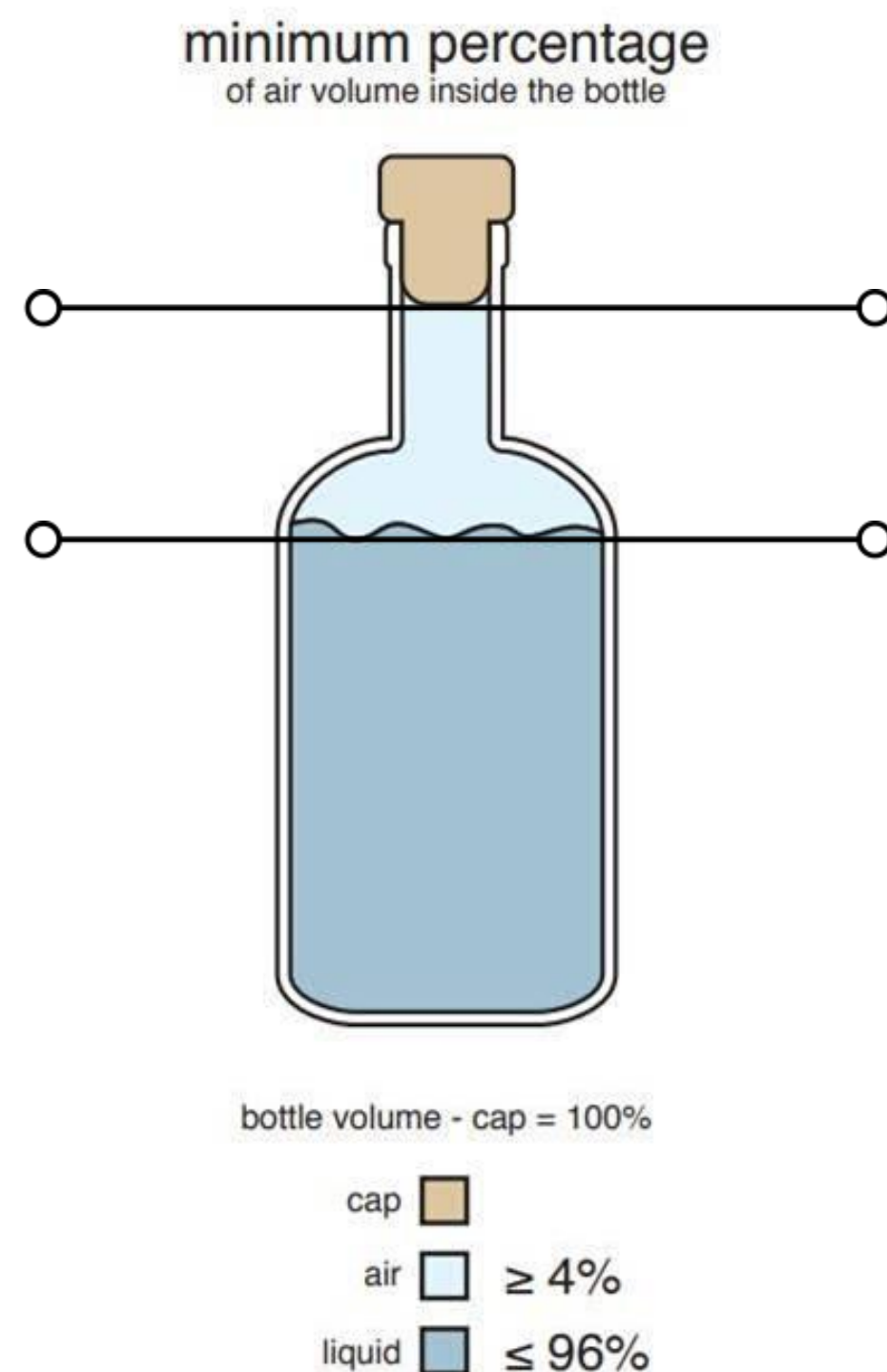
All the **data** received from our customers are **analysed**, evaluated and checked against the records in our database, built on almost 50 years of experience



Finding precedent data is helpful to move forward in order to better satisfy the customer

2

VOLUMETRIC ANALYSIS



Usually, a bottle has a filling level + some mm between the liquid and the bottle neck.

This volume has to be no more than 4% otherwise the POP-UP, meaning that there is no enough space for the alcoholic solution to evaporate.

The **more space** we have, the **less pressure** on cap occurs.

bottleneck characteristics' check and the suitability of the air chamber, in order to determine the right closure.

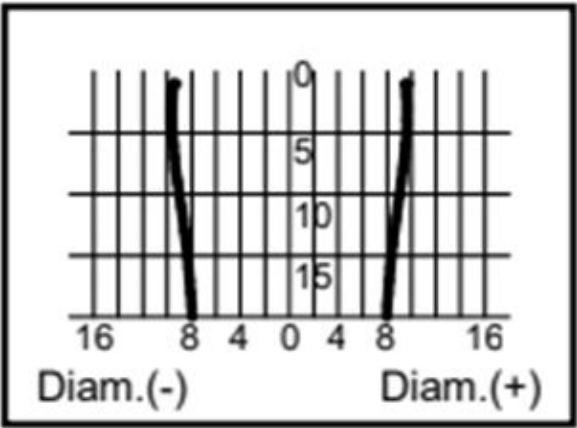
3

PERFILAB

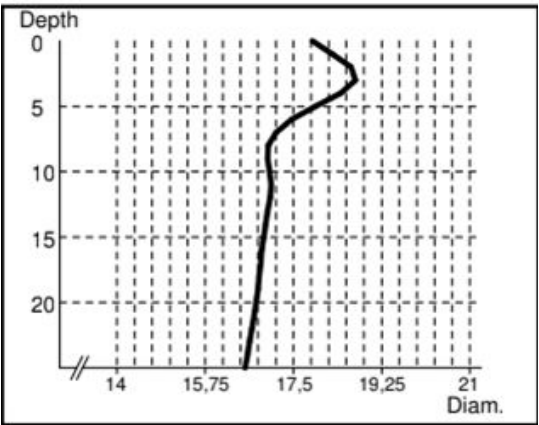
An equipment linked to a software
measures the bottleneck, both the
front and the profile



Depth	B1	
	0°	90°
1.0	19.03	18.95
2.0	19.17	19.09
3.0	19.24	19.15
4.0	19.23	19.14
5.0	19.17	19.07
6.0	19.04	18.94
7.0	18.87	18.76
8.0	18.65	18.53
9.0	18.38	18.26
10.0	18.09	17.95
11.0	17.79	17.64
12.0	17.50	17.34
13.0	17.24	17.07
14.0	17.00	16.82
15.0	16.80	16.60
16.0	16.62	16.39
17.0	16.47	16.21
18.0	16.33	16.04
19.0	16.18	15.90
20.0	16.02	15.75



V-shape neck
bottle seen at 0°

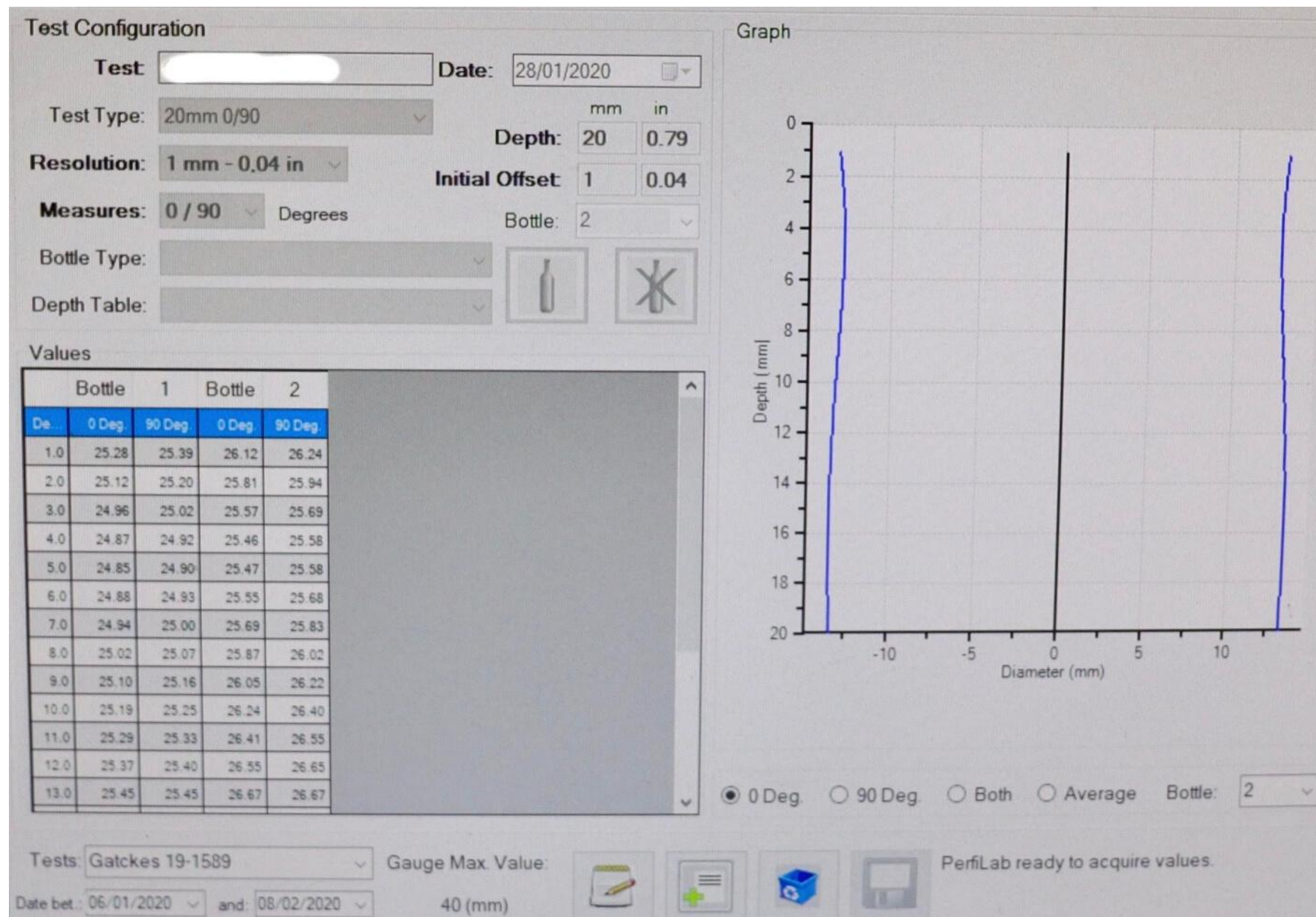


Bell shape neck
bottle seen at 90°

To determine the right shape



3 PERFILAB- the software



4 POP-UP TEST & STRESS TEST

Following an internal and specific procedure, the bottles are tested in the oven and stressed about:

- temperature
- time duration
- for the 3 bottles



The pop up happens when the cap "jump" out from the bottle opening



If the test fails, there is a technical re-evaluation of the stem material and the stem structure

Pop-up prevention

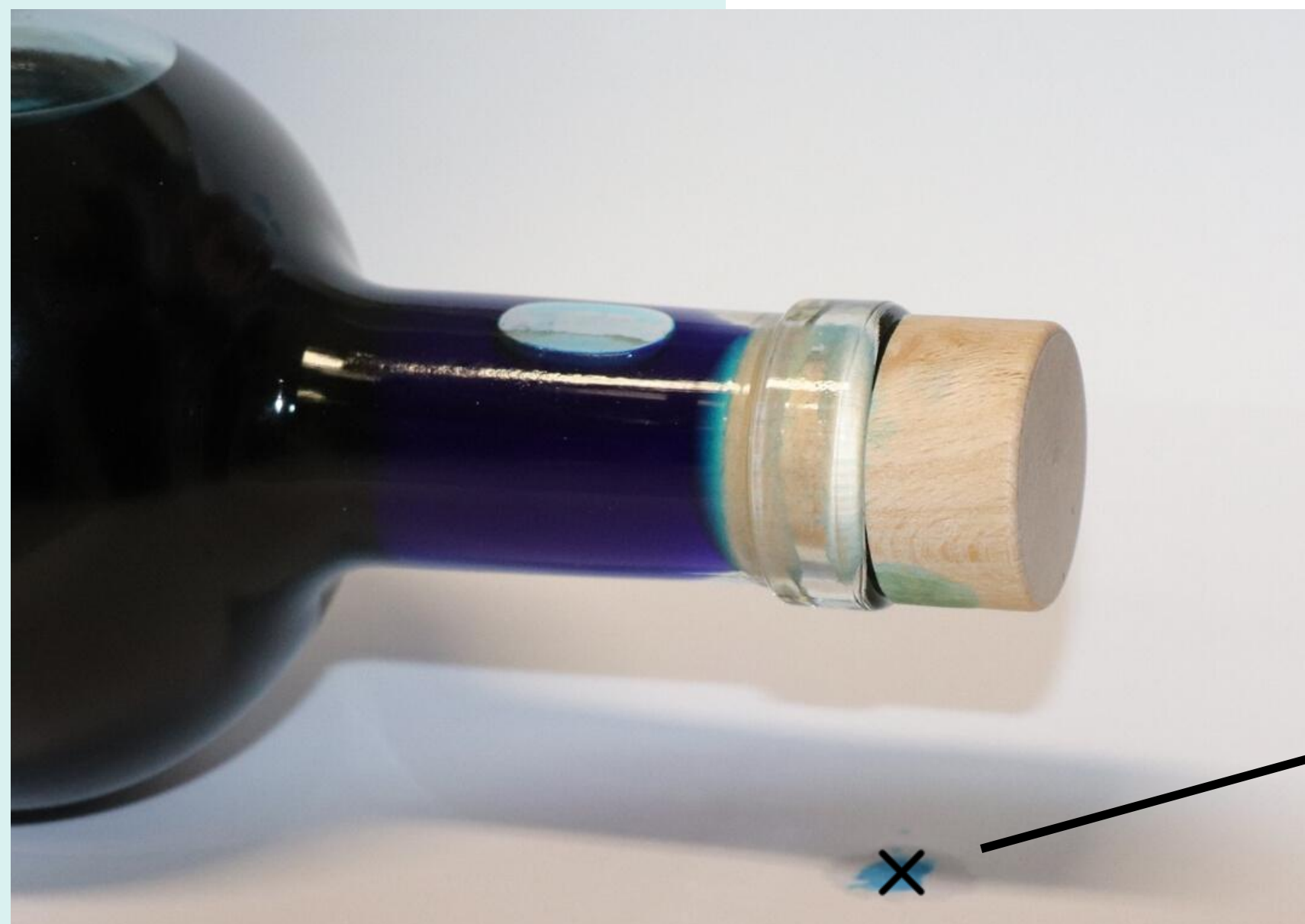


A vent is created that allow the air in excess to get out from the bottle, avoiding the cap to come out.

5

LEAKING STRESS - LEAKING TEST

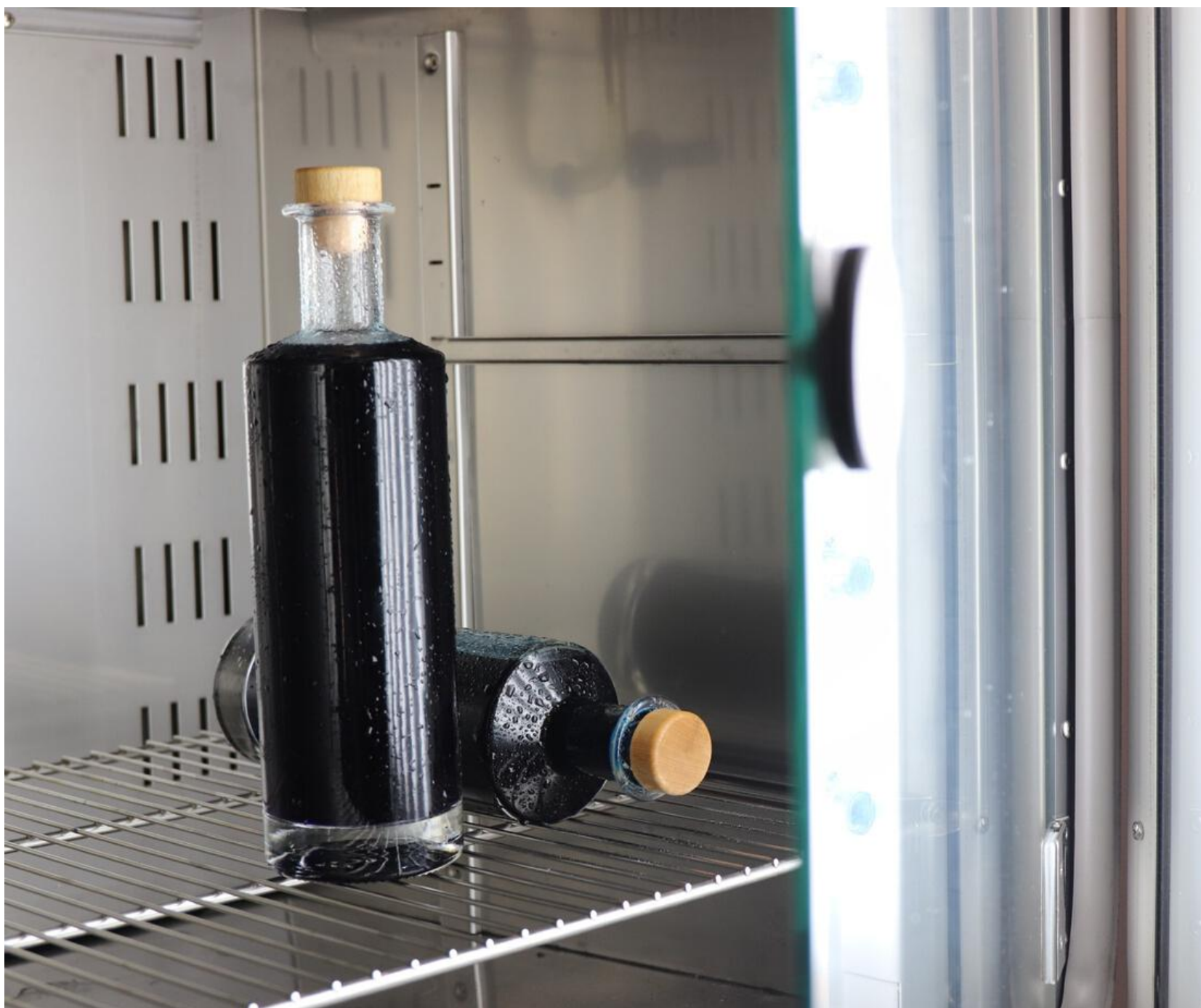
The bottles are filled with a blue alcoholic solution and horizontally put in oven and/or freezer at different temperatures for range of determined time. The blue liquid doesn't have to come out from the bottle.



wrong
closure

6

CLIMATIC STRESS TEST



Following a internal procedure, an equipment similar to an oven simulates the bottles and cap climatic conditions of transport. Temperatures, humidity and light can be variable, on ad hoc basis of needs or of dynamics that we want to create.

7 PUT IN



Evaluation of the necessary insertion force so that the cap can enter the bottle.

It must respect a range-force to determine that the cap is correct

&

PUT OUT



It is tested how the cap come out from a filled bottle, with a specific equipment.

If the test fails there is a re-evaluation of the stem lubrication and slipperiness, as the test is aimed to determined the type of lubrication

8 TORQUE METER

This test is made for GPI products (screw cap)
It simulate the cap closing, and so the force
used to close the bottle, to address the
customer on bottling phase.



After the test there is a check: the plastic part
has to stay linked to the aluminum one, they
have to stay perfectly tight.



THE HEAD & STEM CHOICE



SUGHERA®

the best suggestion
our first choice



EXPANCORK

uniform performance
no TCA issues
constant permeability to oxygen
organoleptic purity
high level performance



NATURAL CORK

great elasticity to get your liquid evolve
the right choice if the liquid doesn't have to lost
gas
impermeability
environment friendly

While the cap head is more a choice of preference, the stem has to take into consideration the kind of the alcoholic liquid within the bottle to better perform.

	gin	vodka	whiskey	sugary distillate
sughera	***	***	***	***
expuncork	**	**	**	**
natural cork	*	*	***	**

*= level of compatibility

MATERIAL: SUGHERA®



A natural cork and a Sughera® one left in an alcoholic solution for at least one week

PROs

- tied with no glue --> a special blend of pharmaceutical polymers conducts a natural binding action on cork micro-granules of which the cork is composed
- it has no crumbling problems
- it prevents the stem be broken from the head
- No TCA problem which can damage the alcoholic solution (thus the clear color of the solution in the picture)
- best grip on the bottle neck
- best elastic return --> it fits better the bottle, especially if the bottleneck has a particular shape

► This made Sughera® the **best choice** to preserve your liquids, as all the most common problems are overcome thanks to this special technology

Sughera® is part of the **MIXCYCLING®** family

Mixcycling® is a patent-pending process based on 6 steps, a new generation of blends with high performance and soft touch feeling. How does it work:

1

Select organic scraps

from agri or factory-based productions

2

Grind Organic Scraps

organic scraps are grinded and then selected for their size

3

Sanitize & Activate

we sanitize the organic scraps via plasma and then activate their surface to increase adhesion with plastics

4

Select the Plastic type

Labrenta's technical office chooses the most suitable plastic compound

5

Dosing

we add an additive to enhance cohesion between all the particles

6

Extrusion

Mixcycling® blend is then extruded with high-tech machines

MATERIAL: HEAVYTECH



This material allows the use of the plastic injection moulding process but with the application of different blends - thus not plastic - for the creation of premium pieces

1.8 plastic charged ceramic

2.0 charged mineral - barium

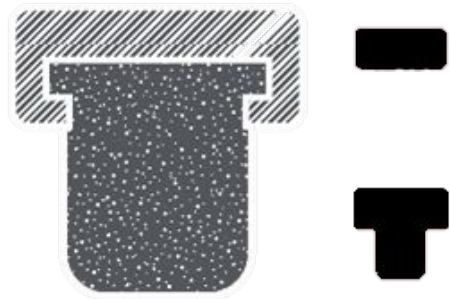
2.5 charged mineral - iron

6.0 charged copper

The numbers refer to the weight of the piece, compared to the same in plastic.

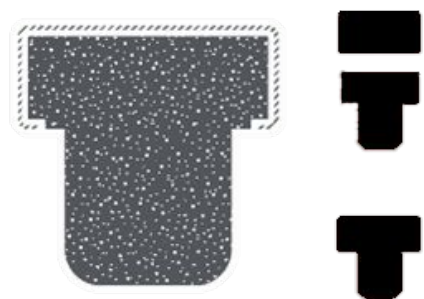
With the plastic charging, you can get the same characteristics as the plastic has, but with an higher perception of the product, as it is more heavy and so the weight acquired value

NGS ASSEMBLY - no glue system



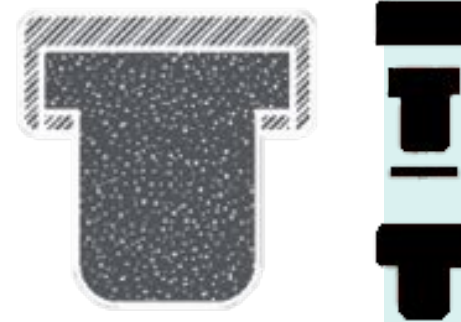
CO-INJECTION

the synthetic stem is injected directly onto the head, ensuring a perfect seal



BENDING

the closure's head is edged with a metal cover



ULTRASOUND

this system make it possible for the stem to be joined to the head thanks to a ring that is ultrasound welded to the base of the head itself



COUPLING

The stem is fitted glueless. The peg design is conceived to fit perfectly into the seating of the stem.



SNAP-FIT

interlocking components together

NGS ASSEMBLY



CO-INJECTION



ULTRASOUND



COUPLING



BENDING



SNAP-FIT