

## TEST REPORT

N° P-21.300R

revised version of report P-21.300 of 30/09/2021

**REPORT DATE:** 17/02/2022

**SUBJECT:** Validation report according to AFNOR S99-700 Summer cycle serie 2-8°

**BY ORDER OF:** **Corkconcept SA**  
Rue Zénobe Gramme 39  
4821 Andrimont  
Belgium

The results of this report are exclusively related to the submitted and tested items as received.  
IBE-BVI is not responsible for the information provided by the customer and doesn't guarantee the validity of the results in case of incorrect information that can affect the results.  
Except in full version, this report shall not be reproduced without written approval of IBE-BVI.

Recognition:



Len D'heygere  
Analyst - Consultant  
Physical Testing



Dr. Ann Delmotte  
General Manager

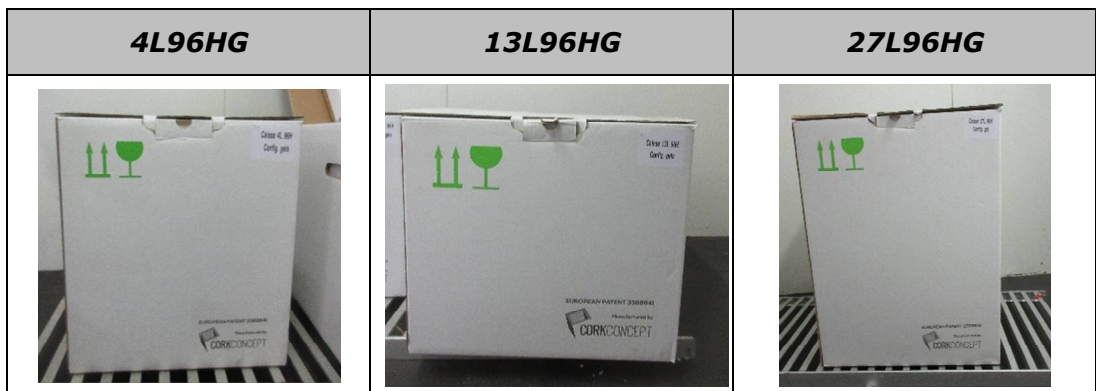
## 1. Received samples

Receiving date of the samples: 15/09/2021

Contact person: Alexandre Narinx  
E-mail contact person: [anarinx@corkconcept.com](mailto:anarinx@corkconcept.com)

Description of the received samples:

1 isothermal boxes / type: 4L96HG; 13L96HG ;27L96HG  
Cooling elements : WATER GEL1000GR ; PCM+5° 900GR



The samples were taken and sent by CORKCONCEPT to IBE-BVI.

## 2. Preconditioning

The samples were conditioned as described in 4. Results

### 3. Executed tests

Testing date: 24/09-28/09/2021  
Executor: Len D'heygere

Climatic test 2-8°; according to AFNOR NF S99-700, cycle ST-96-b:

<b>Sequence</b>	<b>Test Time (h)</b>	<b>Temperature (°C)</b>
<b>1</b>	3	22
<b>2</b>	4	25
<b>3</b>	9	20
<b>4</b>	8	25
<b>5</b>	4	32
<b>6</b>	3	25
<b>7</b>	9	20
<b>8</b>	8	25
<b>9</b>	3	22
<b>10</b>	4	25
<b>11</b>	9	20
<b>12</b>	8	25
<b>13</b>	4	32
<b>14</b>	3	25
<b>15</b>	9	20
<b>16</b>	8	25

### 4. Results

#### 4.1. Protocol preconditioning

- PCM-packs:
  - ✓ 72h at  $(-21 \pm 2)^{\circ}\text{C}$  followed by
  - ✓ 16h at  $(+3 \pm 2)^{\circ}\text{C}$  - refrigerator
- Water gel packs:
  - ✓ Min. 72h at  $(-21 \pm 2)^{\circ}\text{C}$
- Isothermal box:
  - ✓ Min. 72h at  $(+18 \pm 2)^{\circ}\text{C}$
- Product (empty box inside):
  - ✓ Min. 24h at  $(+18 \pm 2)^{\circ}\text{C}$

#### 4.2. Protocol preparation packaging

Boxes are prepared according to the protocol from the Customer (see Annex)  
The pictures below give an overview of the set-up of the boxes, all boxes are prepared according to the same filling pattern. PCM packs are touching the product box and the Water Gel Packs are on the outside.  
The climatic test is started immediately after preparation.

Box 13L96HG



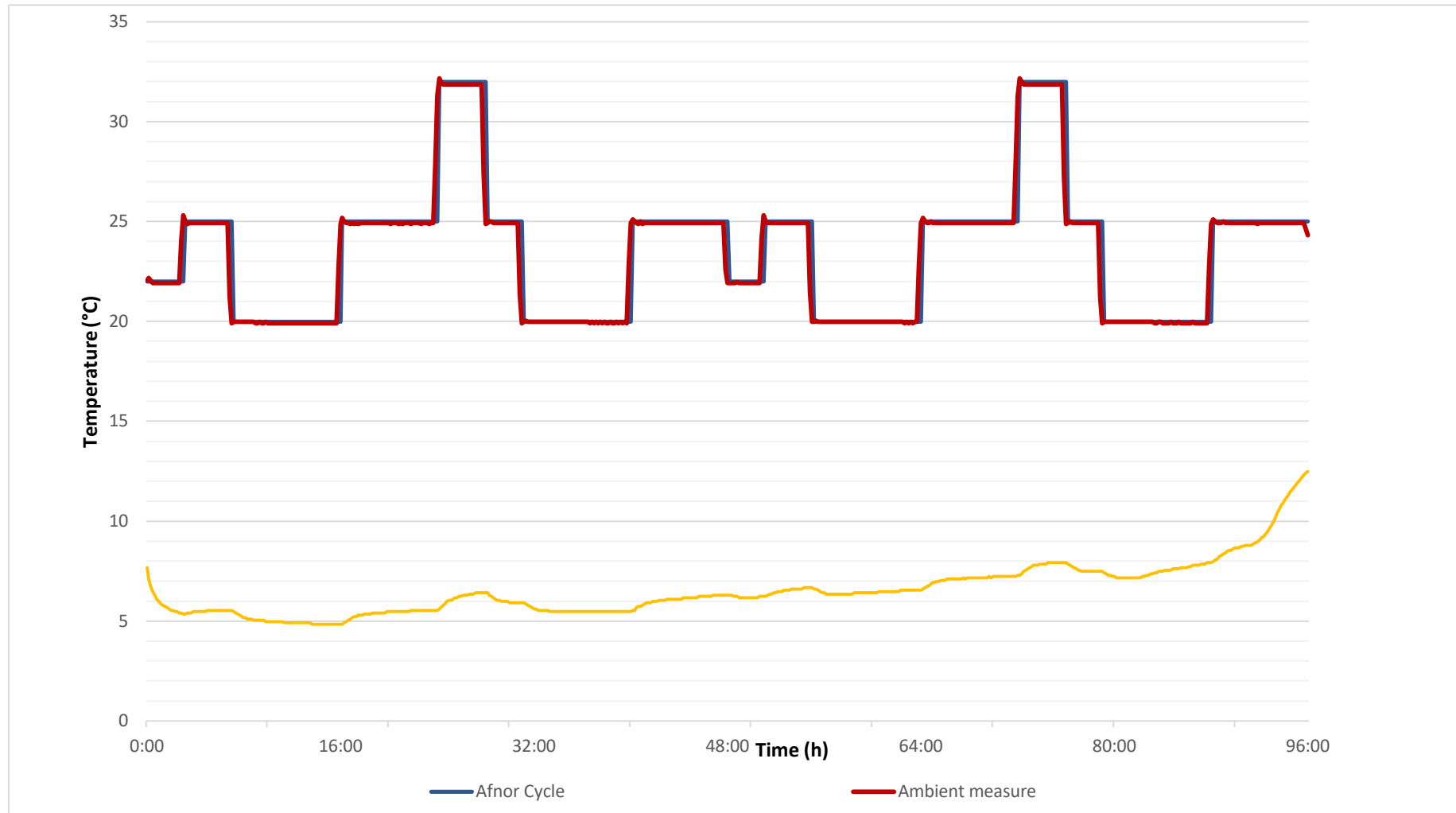
Used Equipment: Climatic Room GH-023  
Manufacturer: CTS  
Type: TW-40/15  
Serial number: 129606  
Range: -40°C ~ +40°C

Temperature is measured in the centre of the box.

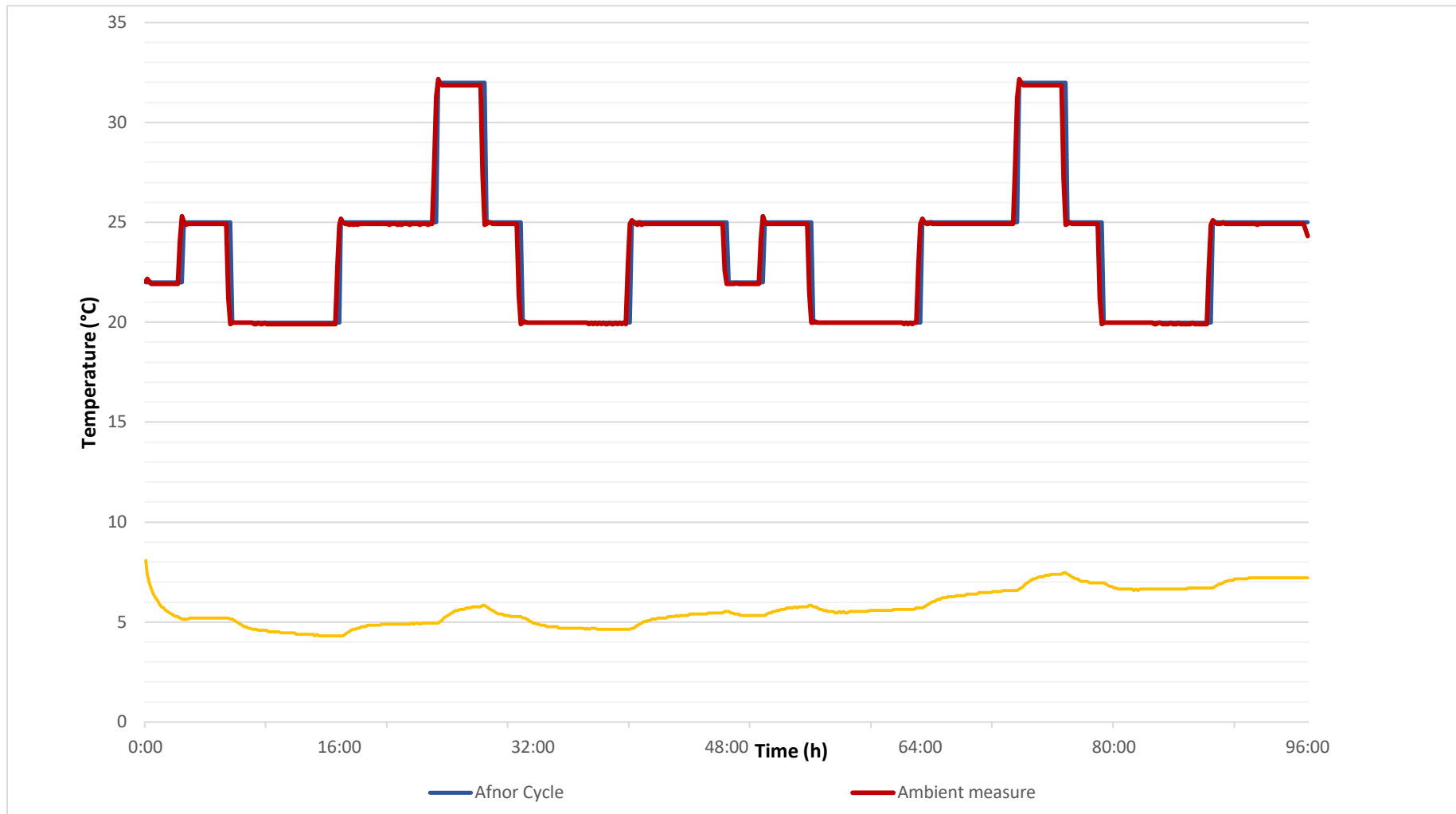


Loggers: GL-155 Waranet Pucés:  
TP039 for ambient temperature  
TP034 for 4L96HG  
TL061 for 13L96HG  
TP049 for 27L96HG

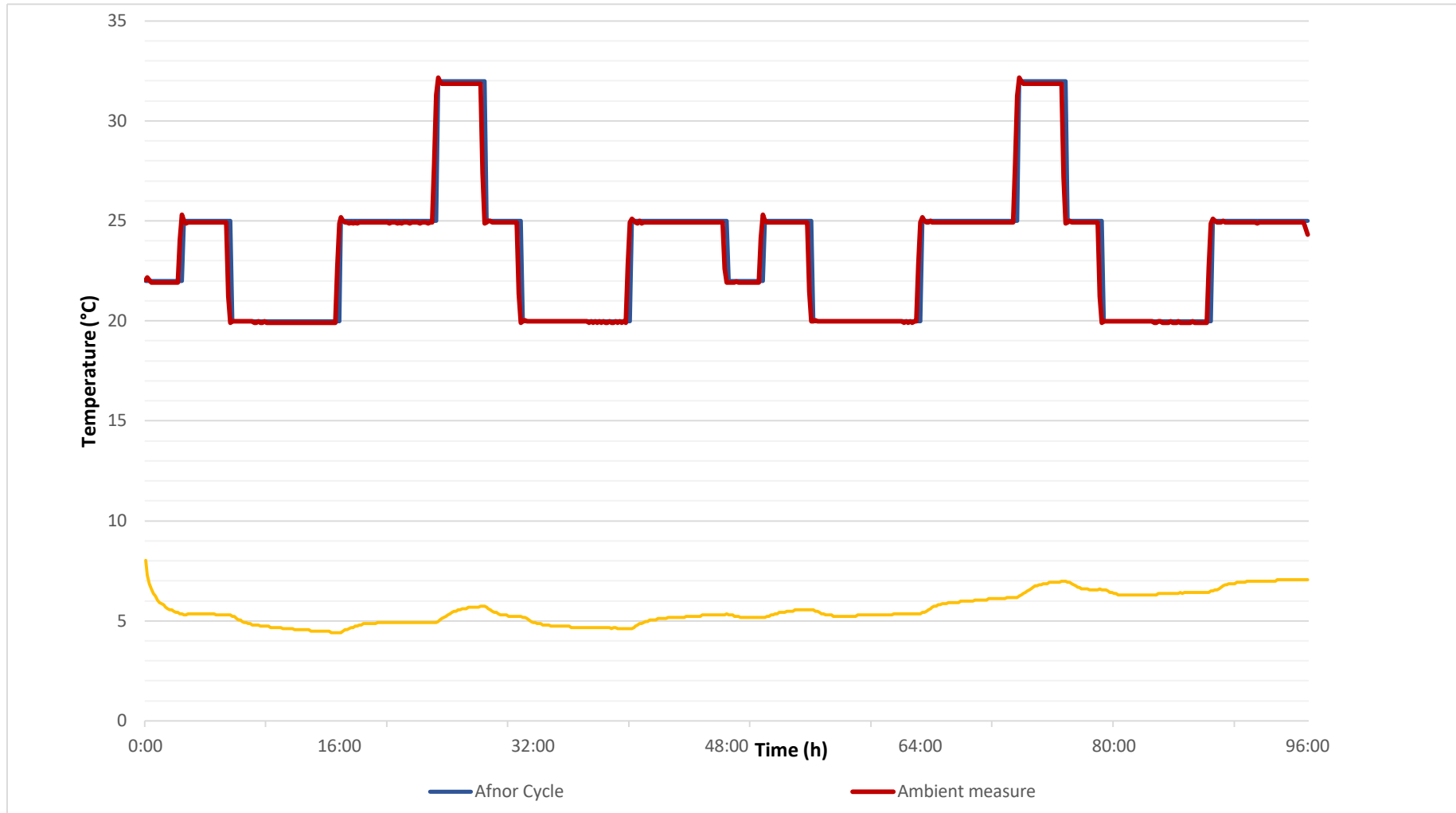
4.3. Graph 4L96HG



4.4. Graph 13L96HG



4.5. Graph 27L96HG



The graphs above are the summary of logged data. All data is shared in Excel file with customer – "Corkconcept P-21.300 Validation Summer – data".

During the AFNOR NF S99-700, cycle ST-96-b samples 13L96HG and 27L96HG are between 2-8°C.

Sample 4L96HG was after 88h above 8°C.

## **5. Conclusion**

Based on the results obtained from the tested material CorkConcept boxes 13L96HG and 27L96HG, temperature-controlled packaging, are successfully held between 2-8 °C for not less than 96H in accordance with AFNOR NF S99-700, cycle ST-96-b for the summer configuration.

CorkConcept box 4L96HG, temperature-controlled packaging, is successfully held between 2-8 °C for not less than 88H in accordance with AFNOR NF S99-700, cycle ST-96-b for the summer configuration.



Len D'heygere

Analyst – Consultant  
Physical Department



**Annex A – PROTOCOL**

**Protocole d'utilisation simplifié**  
GELS



Température : +2°C /+8°C

**1) Conditionnement des gels**

Les gels eau 1000 gr et les gels PCM 900 gr doivent être solidifiés avant utilisation selon les conditions de stockage ci-dessous.



**2) Temps d'attente avant utilisation des gels**

Les gels eau doivent être sortis du réfrigérateur 10 minutes avant utilisation.  
Les gels PCM peuvent être utilisés directement en sortie de réfrigérateur.

**Remarques**

- Les produits doivent être maintenus à +5°C +/-3°C pendant au minimum 24h
- Toutefois les durées de conditionnement dépendent du type d'installation ainsi que de la quantité des gels à solidifier.

**Protocole d'utilisation simplifié**  
GELS



Etapes de préparation

Configuration été (modèle boîte 13L)



## **6. Annex**

Report N° P-21.300R replaces report N° P-21.300.

Initiator of the revision:

CorkConcept

Reason for the revision (if applicable):

In the original report it wasn't clearly stated that it was a validation report.

Changes:

- Title changed to "Validation report according to AFNOR S99-700 Summer cycle serie 2-8°"
- Identification of the boxes & used loggers are included
- Conclusion of the test results is added.