# KOMO®
## Product certificate
## **certificate number**

| | | | |
|---|---|---|---|
| **Issued** | *yyyy-mm-dd* | **Replaces** | *certificate number* |
| **Valid until** | *Indefinite* | **Dated** | *yyyy-mm-dd* |
| **Page** | *1 of 4* | | |

STATEMENT BY CI
This product certificate is based on BRL 2020-2 dated 08-09-2022, issued according to the CI-Regulation for Certification.

The quality system and the product characteristics of this product are checked periodically. Based on this, **CI declares that** there is legitimate confidence that:

Upon delivery, the product supplied by the certificate holder meets the requirements:
- Of the technical specifications laid down in this product certificate,
- The product requirements laid down both in this product certificate and in the BRL.

Provided the packaging is accompanied by the KOMO® quality mark in the manner set out in this product certificate.

The essential characteristics, as laid down in the applicable harmonised European standard, and the corresponding checks on the quality system of these characteristics do not form part of this declaration

Director CI
CI

473200612

*This product certificate is also included on the KOMO foundation websites: www.komo.nl and www.komo-online.nl. Users of this product certificate is advised to check whether it is still valid. For this purpose consult the website of CI: www.xx.xx*

**CI.**
Street + number
PO BOX
Postal code + city
Country
Tel.
Fax
E-mail
Website

**Certificate holder**
Name certificate holder
Street + number
Postal code + city
Country
Tel.
Fax
Email
Website

**Assessed is:**
- **Quality system**
- **Product**

**Periodic control**

## 1 TECHNICAL SPECIFICATION

The products as specified in the table below fulfil the requirements of BRL 2020-2 “TPE pipe joint seals for non-pressure waste water and drainage Part-2: SEALS”. The harmonized European standard EN 681-2 is applicable.

The following products are covered by this product certificate:

**Specification**

| Type TPE material | Nominal hardness in IRHD |
|---|---|
| xxxxxxxxxx | xx |

## 2 QUALITY MARK AND INDICATIONS PLACED ON THE PACKAGING

The packaging is marked by means of:

- The KOMO® indication or the KOMO® quality mark followed by the certificate number. The official KOMO quality mark is shown and executed as follows:

- KOMO logo or KOMO word mark followed by the certificate number without specifying the version,
- Name of certificate holder,
- Production date/ (the year of manufacturing and preferable the quarter),
- Production date/ (the year of manufacturing and preferable the quarter),
- The type of TPE in a letter code according to the nomenclature used in ISO 18064 (e.g. TPV, TPS,).

## 3 PRODUCT CHARACTERISTICS

### 3.1 ESSENTIAL CHARACTERISTICS

*Table-1: requirements for TPE seals to be used in waste water and drainage piping systems that are attached to TPE or other materials.*

| **Characteristic** | **Dimension** | **Method** | **Requirement** | **Reference BRL2020-2** |
|---|---|---|---|---|
| Adhesion | N | BRL 2020-2 | 100 N / 25 mm | 4.2.2.3 |

*Table-2: requirements for TPE seals to be used in waste water and drainage piping systems*

| **Characteristic** | **Dimension** | **Method** | **Requirement** | **Reference BRL 2020-2** |
|---|---|---|---|---|
| Chemical resistance | - | ISO 1817 | Only by mutual agreement between the manufacturer and the buyer | 4.2.3 |
| Appearance | - | ISO 9691 | The sealing zone shall be free of all surface imperfections other than bloom. Outside of the sealing zone no major imperfections are allowed. | 4.2.4 |
| Homogeneity | - | ISO 9691 | No foreign bodies, free of imperfections and defects such as cracks, entrapped air, bubbles or other irregularities | 4.2.5 |

| | | | | |
|---|---|---|---|---|
| Dimensions | - | ISO 23529<br><br>ISO 3302-1<br>ISO 3601-1 | Dimensions should be determined by means of appropriate measuring equipment.<br>Tolerances shall be specified from the appropriate classes.<br>The nominal measurements and the acceptable deviations shall be in accordance with the figures stated by the manufacturer and they shall be laid down in a drawing | 4.2.6 |
| Physical & Mechanical properties | - | BRL 2020-2 | See table-4 | 4.2.7 |

*Table-3: requirements for TPE seals to be used in waste water and drainage piping systems that have a weld and/or are made with two different compounds.*

| **Characteristic** | **Dimension** | **Method** | **Requirement** | **Reference BRL 2020-2** |
|---|---|---|---|---|
| Number of welds | NA | BRL 2020-2 | ≤ 1 | 4.2.8.2 |
| Behaviour at elongation for products with a weld before ageing | NA | BRL 2020-2 | No crack or constrain | 4.2.8.3 |
| Behaviour at elongate for products with a weld after ageing | NA | BRL 2020-2<br>ISO 188 | No crack or constrain | 4.2.8.3 |
| Behaviour at elongation for products made with two different TPE compounds | NA | BRL 2020-2 | No crack or constrain | 4.2.8.4 |
| Behaviour at elongation for products made with two different TPE compounds after ageing | NA | BRL 2020-2<br>ISO 188 | No crack or constrain | 4.2.8.4 |

*Table-4: physical and mechanical requirements for TPE seals to be used in waste water and drainage piping systems*

| **Characteristic** | **Dimension** | **Method** | **Requirement** | **Reference BRL 2020-2** |
|---|---|---|---|---|
| Hardness | IRHD | ISO 48-2 | ± 5 | 4.2.7.2 |
| Tensile strength<br>(on the seal test piece) | MPa | ISO 37 | ≥ 2,5 or ≥ 60 % of value measured on the material in flow direction of the TPE material determined on standard testsheets | 4.2.7.3 |
| Elongation at break<br>(on seal test piece) | % | ISO 37 | ≥ 200 or ≥ 80 % of value measured on the material in flow direction of the TPE material determined on standard testsheets | 4.2.7.3 |
| Compression set<br>24 h, 70 °C | % | ISO 815-1 | Max. 40 | 4.2.7.4 |
| Stress relaxation<br>100 days at 23 °C (*) or<br>21 days at 23 °C (*) or<br>7 days at 23 °C (*) | % | ISO 6914<br>or<br>ISO 3384-1 | Max. 32<br>Max. 28<br>Max. 22 | 4.2.7.5 |
| Stress fall after 168 h at 23 °C with 2 times 1 h at 70 °C | % | BRL 2020-2<br>4.2.7.6 | Max. 30 | 4.2.7.6 |

*(*) One of the 3 mentioned requirements should be met.*

*7 days test: if the result after 7 days is ≤ 22 % the test can be stopped and the material has passed the requirements for this aspect; if the result after 7 days is ≥ 26 % the test can be stopped and the material has not passed the requirements for this aspect; if the results after 7 days is between 22 % and 26 % the test can continue to 21 days.*

*21 days test: if the result after 21 days is ≤ 28 % the test can be stopped and the material has passed the requirements for this aspect; if the material is ≥ 30 % the test can be stopped and the material has not passed the requirements; if the material is between 28 % and 30 % the test can continue to a maximum of 100 days.*

*100 days test: if the result after 100 days is ≤32 % the material has passed the requirements for this aspect; if the result is > 32 % the material has not passed the requirements for this aspect.*

It has been established that the product characteristics mentioned above meets the requirements mentioned above.
The statements above may not be used to replace the CE marking and/or the corresponding obligatory Declaration of Performance.

## 3.2 OTHER PRODUCT CHARACTERISTICS

The TPE material shall be resistant to any chemicals that waste water can contain under usual circumstances and in the usual concentrations.

Are there additional requirements on chemical resistance? Yes/No

If yes specify below.

| **Characteristic** | **Method** | **Requirement** | **Reference BRL 2020-2** |
|---|---|---|---|
| **Resistance against chemical** | ISO 1817 | | 4.2.3 |

## 4 TIPS FOR THE USER

Check on delivery of the products listed under the “technical specification” whether:
- The product(s) and material(s) ordered are delivered in accordance with the agreement you made.
- The brand and the method of marking is correct
- No defects or damage is visible (for example, resulting from the transportation).

The statements in this product certificate may not be used to replace the CE marking and/or the corresponding obligatory Declaration of Performance.

If on the basis of the foregoing you decide to proceed to rejection, please contact
-

And if necessary,
- CI

For the proper storage, transport and processing consult the instructions of the certificate holder.