



Approval body for construction products and types of construction

#### **Bautechnisches Prüfamt**

An institution established by the Federal and Laender Governments



### European Technical Assessment

### ETA-19/0521 of 11 October 2019

English translation prepared by DIBt - Original version in German language

### **General Part**

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	M80296 Rio Lomas
Product family to which the construction product belongs	Sealing gasket made of EPDM for tubbing constructions
Manufacturer	Dätwyler Sealing Technologies Deutschland GmbH Eisenacher Landstraße 70 99880 Waltershausen DEUTSCHLAND
Manufacturing plant	Dätwyler Sealing Technologies Deutschland GmbH Eisenacher Landstraße 70 99880 Waltershausen DEUTSCHLAND
This European Technical Assessment contains	6 pages including 2 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU)	EAD 320014-00-0605

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### Specific part

#### 1 Technical description of the product

The sealing gasket "M80296 Rio Lomas" is a elastomer gasket for sealing segment joints with dimensions according to annex A.

The sealing gasket is used only in segmental linings. It is an elastomer sealing frame which is anchored in the continuous grooves of the segments.

Annex A shows the product and performance of the product.

# 2 Specification of the intended use in accordance with the applicable European Assessment Document

The sealing gasket "M80296 Rio Lomas" is used to seal joints between the tunnel segments.

Depending on formwork shape, especially the grooves, sealing frames are always delivered to the construction site with a slight excess length of  $\approx$  0.5 %.

The performances given in Section 3 are only valid if the sealing gasket is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the sealing gasket of at least 100 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

### 3 Performance of the product and references to the methods used for its assessment

#### 3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	See annex A

### 3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Dimensions of sealing	See annex A
Hardness IRHD	See annex A
tensile strength/Elongation at break	See annex A
Residual pressure deformation	See annex A
Durability against thermal ageing	See annex A
Stress relaxation	See annex A
Restorative capacity at 20°C	See annex A
Load displacement	See annex A



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### 3.3 General aspects

Durability and serviceability are only ensured if the specifications of intended use according to Annex B and the specifications of the technical documents of the manufacturer<sup>1</sup> are kept.

# 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to EAD No. 320014-00-0605 the applicable European legal act is: Decision 2003/656/EC.

The system to be applied is: 2+

In addition, with regard to e.g. reaction to fire for products covered by this EAD the applicable European legal act is: Decision 1999/90/EC

The system to be applied is: 1, 3 or 4

# 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 11 October 2019 by Deutsches Institut für Bautechnik

Dr.-Ing. Lars Eckfeldt p. p. Head of Department *beglaubigt:* Gnamou

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The manufacturer's technical documents comprise all information necessary for the production and the installation of the product as well as for repair and it is deposited with DIBt.

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Details of groove and sealing gasket

Cross section	a = 245.3 mm² b = 72.6 mm²
Groove width at bottom	
	26 mm
Groove depth	9 mm
Groove angle	11.5°
Groove Area	248.3 mm² (a)
At full compression the	
	95 %

Performances of "M80296 Rio Lomas":

Reaction to fire Classification according to EN 13501-1	class E
Dimensions of sealing gaskets	see above
Hardness IRHD	65 IRHD
Tensile strength/Elongation at break	9.4 N/mm <sup>2</sup> / 358 %
Residual pressure deformation	19 %
Durability against thermal ageing	durable
Stress relaxation	43.0 %
Restorative capacity at 20°C	98.3 %
Load displacement	25.57 kN/m

### M80296 Rio Lomas

Dätwyler Sealing Technologies Deutschland GmbH

### Product and performance of the product

Annex A



### Installation

The levels of use categories and the performance of the sealing gasket can be assumed only, if the installation is carried out according to the installation instructions stated in the technical documents of the manufacturer, in particular taking account of the following points:

- Installation by appropriately trained personnel
- Only sealing gaskets marked according to the installation guide are to be installed.
- Installation with the required tools. With these tools, the profile corners can be inserted exactly into the existing formwork corners and with a precise fit.
- Inspecting the formwork forms, especially the grooves for cleanliness
- The sealing gaskets must be dry and dust-free.
- The grooves of the shuttering form must be sufficiently wetted with shuttering oil.
- Installation of the sealing gaskets according to the installation guide
- For checking the exact position of the sealing lips after installation, the exact fit of the sealing lips can be checked with a control mirror with telescopic handle.
- After concreting and removing the shuttering of the segment, check that the sealing gasket is in a perfect position and remove any concrete residues that may have entered the receiving groove and documentation of the results.

### M80296 Rio Lomas Dätwyler Sealing Technologies Deutschland GmbH

Indented use Specification Annex B