

DWH 311 P #0019

Product description

DIAMANT DWH 311 P is a highly viscous 2-component fine adjustment and adhesive coating based on epoxy resin with aluminium fillers. It is used for form-fit and force-fit filling and bonding of parting lines on components, assemblies and parts made of a wide variety of materials. Using filling and moulding technology, even complex shapes and structures can be created with precision in the μm range.

DWH 311 P can be removed by applying a micro-thin layer of DIAMANT Separator Liquid to the mating surface. The result is an exact copy of the moulded surface. High-precision surface preparation and mechanical reworking of the surfaces is not required. In modern production technology, process times and costs can be reduced many times over.



Characteristics

- Very high compressive strength
- Very high accuracy, μm -precise moulding
- Extremely dimensionally stable after curing
- Excellent load transfer due to full contact surface contact
- Temperature-resistant up to +80 °C
- Excellent vapour properties due to the modulus of elasticity of approx. 8600 N/mm²
- Aluminium-grey colour after curing
- High resistance to oils, cooling emulsions, mineral and synthetic coolants and lubricants as well as many other chemicals

Typical applications

- Positive and non-positive installation of guides in mechanical engineering
- Adjusting lining for assemblies and elements made of a wide range of materials
- Full-surface relining of strips and elements as a replacement for lining plates
- Load-bearing gap compensation on beams of portal milling and gantry systems
- μm -precise fitting of bushings, centring and guide elements
- Fixing and/or centring of bearing bushings after high-precision alignment
- As a filler and composite material in additive manufacturing and 3D printing

Available in the following versions

ARTICLE	PRODUCT	DESCRIPTION
#0019	DWH 311 P	250 g, 500 g, 1 kg, 10 kg, Special sizes on request

Accessories

- #1354 Separator, liquid
- #1355 Separator, Spray 500 ml
- #1417 Cleaner, liquid
- #1534 Cleaner, Spray 500 ml
- #0078 Spatula, DIAMANT green

#0789 Mixing propeller
#7010 Foam rubber sealing tape HxB 10x15 mm
#1580 Foam rubber sealing tape HxB 4x9 mm

Individual component parameters			
Component	0019A	0019B	Method
Mixing ratio [%]	92	8	calculated
Density [g/cm ³]	1,75 g/cm ³	1,00 g/cm ³	DIN EN ISO 1183
Viscosity [mPas]	Pasty	150 mPas	DIN 53019
Colour	Aluminium grey	Clear	
Mixing parameters A and B Component			
Mixed viscosity [mPas]	Pasty (stable up to 8 mm)		DIN 53019
Pot life [min] at 20 °C/100 g	120		DIN EN ISO 9514
Complete curing at 20 °C [h]	16		DIN ISO 7619
Curing for final moulding at 20 °C [h]	8		DIN ISO 7619
Processing temperature [°C]	10-30		
Density [g/cm ³]	1,6		DIN EN ISO 1183
Technical values cured product			
E-modulus [N/mm ²]	8600		DIN EN 13412:2006
Hardness after ShoreD 48h	84		DIN ISO 7619
Compressive strength [N/mm ²]	160		DIN EN 12190:1994
Temperature resistance (duration)	-20 °C to +80 °C		
Temperature resistance (30 min)	-40 °C to +125 °C		
Shrinkage [%]	> 0,1		DIN EN 12617-4/2002

Storage/shelf life

Store in the original, unopened container in a dry, cool and frost-free place (+5°C to +20°C). Shelf life 2 years. Protect from direct sunlight. Higher temperatures reduce the shelf life.

Preparation of adhesion surface

The surfaces to be coated should be roughened considerably to improve adhesion. The roughening depth should be 0.5 mm (Rt = 500 µm). The roughening can be produced, for example, using a cutter head with a high feed rate on a milling machine. It must be ensured that the surfaces are clean, dry, and free of grease and oil. We recommend DIAMANT Cleaner #1417 or DIAMANT Cleaning Spray #1534 to clean dirty surfaces. Surfaces to which DWH should not adhere should be coated with Separator liquid #1354 or Separator Spray #1355.

Mixing process

To mix DWH 311 P, component B is poured completely into the container of component A. Use a drill and the DIAMANT mixing propeller #0789 to mix both components intensively (max. 250 rpm for approx. 2 minutes). Remove any material adhering to the walls of the container with a spatula and add to the mixture. Mix thoroughly again. The deaeration described below also ensures final mixing.

Venting

Immediately remove DWH 311 P from the container after mixing and spread out thinly on a clean tray in a crosswise motion. Spreading out achieves a further mixing effect, but in particular breaks up any air bubbles that have been stirred in, and also dissipates some of the reaction heat by spreading it out over a large area, which ensures a longer processing time.

Application description

Firstly, the DWH 311 P is applied firmly to the primer with a spatula as a thin adhesive layer, and further material is then applied in a roof shape with a small excess, without trapping air. The applied excess quantity should displace the air when moulding the components and thus ensure bubble-free processing.

Qualification and service

We recommend having the application carried out by trained DIAMANT technicians. To ensure the best possible quality and error-free application, we offer the following services:

- Consultation by telephone and/or on site
- Supervision and monitoring of the work on site
- Complete execution of the work by our experienced application technicians

Further information can be found in the service catalogue.

Disposal

Unused residual material from the cans can be disposed of normally if it has been mixed in the correct mixing ratio and has fully cured (EWC 170203). Unmixed material must be disposed of as chemical waste (EWC 080111). If the DIAMANT service team is booked, the waste will be disposed of by us.

Safety data sheet

Please read the relevant safety data sheet before using the product. Safety data sheets are available on a daily basis on request via info@diamant-polymer.de or by telephone on +49-2166-98360. DIAMANT guarantees the product properties as long as they are stored and used in accordance with the specifications listed here. DIAMANT accepts no responsibility for the processing of the material. Our technicians will be happy to answer any further questions you may have.

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The technical data listed here was determined under laboratory conditions and verified by quality assurance processes on the day of product manufacture. We reserve the right to make changes without prior notice. The customer is responsible for verifying the up-to-dateness of the data and should contact DIAMANT before ordering the material. Application, use and processing are beyond our control and are therefore the sole responsibility of the purchaser. Should liability nevertheless arise, this is limited to the value of the goods supplied by us and used by you. We guarantee the flawless quality of our products in accordance with our general terms and conditions of sale and delivery. All technical data vary depending on the loads and conditions of use. We will provide specific application data on request in each individual case.