

High Precision Alignment System



Gantry Machines

"Moulding in place" is the secret behind time and cost saving in the modern way of machine building.

DWH is used to attach the columns to the ground and the traverse to the columns. Just leave a gap between the contact area, adjust and inject.

Typical Applications

- all type of gantry machines
- joints, spindle shafts, keyslots
- guide rails, bearing chairs and flanges, machine beds
- bearing and index bushes

Product Description

DWH is the precision alignment system for joint faces in machines and machine tools which redundantises costly machining by using the moulding technique. These technique allows an in place moulding to a precision down to the micron with an exact replica of the tool surface.

The material can be either caused to stick to the moulding surfaces or released by the inclusion of a micro thin layer of release agent (**DIAMANT separator liquid**).

Properties

- ◆ high accuracy
- ◆ high load carrying capacity 170 N/mm² (static)
- ◆ excellent shock attenuation
- ◆ full contact of mating surfaces and therefore good load transmittal
- ◆ high load carrying capacity
- ◆ high damping properties
- ◆ good adhesion with nearly zero ageing or weathering
- ◆ precision down to the micron without expensive machining or finishing work

Range

DWH 310 Steel filled system

| | | |
|-----------|-------|-----------------------|
| FL | #0795 | liquid (pour, inject) |
| P | #0442 | putty |

DWH 311 Aluminium filled system

| | | |
|-----------|-------|-----------------------|
| FL | #0166 | liquid (pour, inject) |
| P | #0019 | putty |

DWH 314 Mineral filled system (non-magnetic)

| | | |
|-----------|-------|-----------------------|
| FL | #1984 | liquid (pour, inject) |
| P | #0409 | putty |

Thickener viscosity adjustment for all types available

Preparation

Roughen adhesion areas down to a roughness of 0,3 - 0,5 mm and then clean chemically (optimum: **DIAMANT cleaner**). Make sure that the working temperature is in the acceptable range of 20°C +/- 10°C.

Mixing

Pour the hardener liquid fully into the resin container. Mix manually by spatula or by machine (100 rpm for 2 min.) until the hardener liquid is mixed well with the resin. Ensure that material adhering to the side walls and the bottom is well incorporated.

Degas

- Paste: by spreading it crosswise and thinly onto a clean surface to remove air bubbles.
- Fluid: by pouring the mix in a long, thin, uninterrupted stream into a cartridge or the confined gap.

Application

DWH may be

- poured into a prepared and sealed gap under gravity feed.
- spread in its paste form into a prepared cavity into which a replication tool or component is lowered and located in position.
- injected into a prepared gap using a hand pump cartridge.

Paste

Apply a thin adhesion layer and push it into the surface using a spatula. Add the remainder taking care not to trap air.

Fluid

Pour **DWH** in the prepared cavity slowly in a long, thin stream. Aim at the lowest point to fill from the bottom and thus avoid the entrapment of air, or pump the liquid in from the bottom of the prepared gap using a pump cartridge into a prepared inlet port. To achieve coverage on larger components a number of inlet ports may have to be established. Ensure that the application is made safely within the pot lifetime.



Accessories & Services

separator liquid
safety cleaner
injection equipment:

- injection pipe
- unidirectional valves
- hand injection gun
- cartridges

We also offer a comprehensive and experienced product / process design service to optimise its use in special applications. Our technicians like to advise you in all questions around moulding methods.



High Precision Alignment System

| | 310 FL #0795 | 310 P #0442 | 311 FL #0166 | 311 P #0019 | 314 FL #1984 | 314 P #0409 |
|---|---|----------------------|----------------------|----------------------|------------------------|----------------------|
| | pour/inject | putty | pour/inject | putty | putty | putty |
| Pot Life (+20 °C) [min] | 50 | 50 | 50 | 50 | 50 | 50 |
| Cure Time (+20°C) [h] | 24 | 24 | 24 | 24 | 24 | 24 |
| Cure Time to Dismantle (+20°C) [h] | 18 | 18 | 18 | 18 | 18 | 18 |
| Specific Weight [g/cm ³] | 1,8 | 2,2 | 1,55 | 1,6 | 1,6 | 1,7 |
| E-Modulus DIN 53457 [N/mm ²] | 8700 | 8900 | 8500 | 8600 | 8200 | 8300 |
| Compressive Strength [N/mm ²] | 165 | 170 | 158 | 160 | 148 | 156 |
| Hardness [Shore D] | 86 | 88 | 84 | 84 | 82 | 83 |
| Tensile Strength [N/mm ²] | 72,5 | 72,5 | 72,5 | 72,5 | 72,5 | 72,5 |
| [Psi] | 1051 | 1051 | 1051 | 1051 | 1051 | 1051 |
| Bending Strength [N/mm ²] | 120 | 120 | 120 | 120 | 120 | 120 |
| [Psi] | 1740 | 1740 | 1740 | 1740 | 1740 | 1740 |
| Specific Resistance [Ωcm] | 4,8 x 10 ⁸ | - | - | - | 7,5 x 10 ¹⁴ | - |
| Permittivity at 1 kHz | 45,4 | - | - | - | 5,8 | - |
| Temperature Resistance [°C] | permanent temporary | - 40 bis +80 +130 | - 40 bis +80 +130 |
| Shrinkage at Cure | hardly measurable at 1 mm layer thickness | | | | | |

All material values are average values and vary due to mixing ratio, material quantity and environmental conditions. The mentioned material values are based on normal conditions (STP) of 20°C (273K / 31,73°F) and 1013mbar (1013hPa).



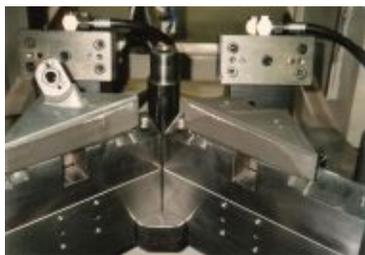
work piece support



work piece support



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adjustment of linear slideways

