

### PRODUCT DESCRIPTION

Zeolan-K is a mixture of 3A synthetic zeolites and natural binders. The product are designed for a static water adsorption process with very low adsorption speed. With an optimized density they can reach very good water adsorption capacity in a specific volume. It has no chemical reactions to aluminium, steel, galvanized steel and plastics. If used in treated spacer profiles or profiles made of other materials; relevant trials must be carried out to ensure the product's suitability. Only for insulated glass manufacturing and air drying applications, for different applications please contact NEDEX Technical Department.

### TECHNICAL SPECIFICATION

#### Characteristics

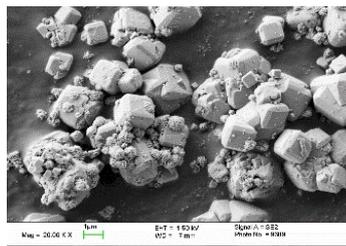
#### Appearance

granule white-light grey

#### Granule size ( $\phi$ min- $\phi$ max)

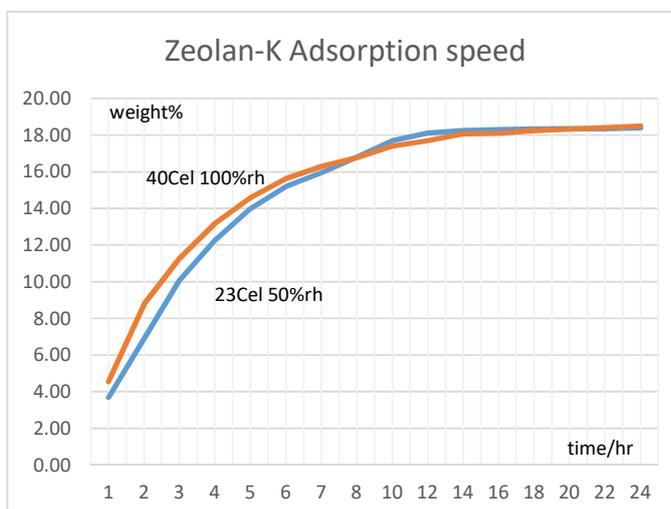
|                                       |                        | 0.5-0.9             |                | 1-1.5 |                  | 1.4-2.0 |                  |
|---------------------------------------|------------------------|---------------------|----------------|-------|------------------|---------|------------------|
|                                       |                        | min                 | max            | min   | max              | min     | max              |
| Medium diameter $\phi 50$             | mm                     | 0.6                 | 0.8            | 1.2   | 1.4              | 1.5     | 1.7              |
| % with $\phi \geq$ median $\phi -0,3$ | mm                     | 98                  |                | 95    |                  | 92      |                  |
| % with $\phi \leq$ median $\phi +0,2$ | mm                     | 95                  |                |       | 95               |         | 92               |
| 99% with $\phi \leq \phi$ large       | mm                     |                     | 1.1            |       | 1.7              |         | 2.2              |
| 99% with $\phi \geq \phi$ mini        | mm                     | 0.1                 |                | 0.1   |                  | 0.1     |                  |
| Delta T                               | °C                     | 42                  |                | 40    |                  | 38      |                  |
| Hardness by dinamometer               | N                      | 5                   |                | 12    |                  | 15      |                  |
| Static electric                       | V                      |                     | 100            |       | 100              |         | 60               |
| Correct size ratio                    | %                      | 95                  |                | 96    |                  | 96      |                  |
| Mechanical dust                       | ppm                    |                     | 200.0          |       | 200.0            |         | 200.0            |
| Laser Photometer                      | 0.3 $\mu$ m            | part/m <sup>3</sup> | $2 \cdot 10^8$ |       | $1.5 \cdot 10^8$ |         | $1.5 \cdot 10^8$ |
|                                       | 1.0 $\mu$ m            | part/m <sup>3</sup> | $3 \cdot 10^8$ |       | $2.5 \cdot 10^8$ |         | $2.5 \cdot 10^8$ |
| Static dust                           | nm                     |                     | 0.22           |       | 0.18             |         | 0.18             |
| Loss on Ignition                      | 540°C                  | %                   | 0.9            |       | 0.9              |         | 0.9              |
| AWAC                                  | 23°C, %9rh, 72hr       | %                   | 16.0           |       | 16.0             |         | 16.0             |
|                                       | 23°C, %32rh            | %                   | 18.0           |       | 18.0             |         | 18.0             |
|                                       | 23°C, %50rh            | %                   | 19.0           |       | 19.0             |         | 19.0             |
| Tc-value                              | 540°C                  | %                   |                | 17.9  |                  | 17.9    |                  |
| Gas desorption                        | 70°C                   | ml/g                |                |       | 0.25             |         | 0.25             |
| Bulk density                          |                        | g/l                 | 822            | 857   | 822              | 857     | 840              |
| Delta T with 3 % of water             |                        | °C                  | 32             |       | 30               |         | 28               |
| SCR - exposure measurement            | mg/m <sup>3</sup> (8h) |                     |                | 0.1   |                  | 0.1     |                  |

#### Crystal structure



### ADSORPTION SPEED

|      | 23Cel /50%rh | 40Cel 100%rh |
|------|--------------|--------------|
| Size | 0,5-0,9      | 0,5-0,9      |
| 1    | 3.69         | 4.56         |
| 2    | 6.89         | 8.77         |
| 3    | 10.07        | 11.27        |
| 4    | 12.26        | 13.17        |
| 5    | 13.99        | 14.58        |
| 6    | 15.20        | 15.62        |
| 7    | 15.94        | 16.29        |
| 8    | 16.80        | 16.78        |
| 10   | 17.70        | 17.40        |
| 12   | 18.11        | 17.70        |
| 14   | 18.24        | 18.06        |
| 16   | 18.30        | 18.10        |
| 18   | 18.34        | 18.24        |
| 20   | 18.36        | 18.33        |
| 22   | 18.36        | 18.41        |
| 24   | 18.39        | 18.50        |



Molecular sieves are fast water adsorbers from their environment. As soon as they are in contact with air they start taking humidity in their crystal structure and they lose their available water adsorption capacity immediately. As higher the humidity in air as higher is adsorption speed. High humid summer conditions can be considered as 40Celsius and 100rh. Normal working conditions in closed areas can be considered as 23Celsius and 50rh.

The diagram is showing how much water can be adsorbed under 2 different climatic conditions. Remind contact with air as much as possible. Seal the unit in shortest period.

### APPLICATION

#### Preliminary statement

Prior to application it is necessary to read the Safety Data Sheet for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labelling, the relevant precautions should always be observed.

#### Pre-treatment

Before using the Delta-T value must be measured. The volatile diagram, delivered with each party shows the initial loading of the molecular sieve approximately. If this value is higher than 1,7%-by weight (acc. EN1279-4:2018), contact NEDEX Laboratory.

In case reading critical delta-T values near to the limits, the measurement of delta-T values should be repeated. In opened boxes please repeat delta-T measurement at the beginning of every working day. If the LOI value measured at 540 °Cel is higher than 3,0%-by weight do not use the material as it contains too much humidity (EN1279:2018). The residual content must be disposed. Read the SDS of the product for disposal conditions.

All surfaces, gloves, storage boxes for molecular sieve must be clean, dry and free from grease.

Molecular sieve must be opened safely and stored in opened packages in a system where air contact is minimized. Filling into the spacers can be done by hand or by automatic machines. The storage chamber of the machines should be emptied after working hours and the content must be disposed. The opened boxes should be used within 48 hours, if not the residual content must be disposed. After filling process into the spacer volumes the system must be sealed maximum within 3 hours.

The spacer internal geometry must have a smooth surface not to destroy the sieve granules. Spacers with high surface tension as plastic spacers may block filling process, check the filling weight of the sieve occasionally. The spacer perforation for automatic filling is very important. If the perforation is less than 4 holes/cm of spacer length, weigh the spacers before and after to control whether filling is performed correctly.

Check the section of the spacer. By warmedge spacers the section to fill the sieve may be not sufficient due to thickness of the spacer walls and geometry. Calculate the necessary molecular sieve quantity by multiplying the density of the sieve and section volume. If not sufficient fill 4 sides of IG unit, and/or order high density molecular sieve.

## STORAGE

### Frost-sensitivity

None. Prior to processing, the product must be brought to a suitable processing temperature.

### Recommended storage temperature

0°C to +30°C. Must be protected from direct sunlight and/or thermal radiation. Storage at temperatures below 0°C and above +30°C does not cause damages to the product, but requires a control of initial moisture value. Extreme temperatures have as a result of extreme low and high pressures in the air-tight packagings of the molecular sieves, which increases the vapour permeation through the packaging materials and sealing.

### Shelf life

12 months

## PACKAGING

|                  |   |
|------------------|---|
| Carton boxes     | 25 kgs, filled at 70-100°C, vacuum / no vacuum                          |
| Metallic barrels | 170 kgs, filled at 70-100°C, no vacuum                                  |
| Big bags         | 650 kgs, in textile with inliner fabricated big bags filled at 70-100°C |

## Hazard Indications Safety Recommendations Transport Regulations

See Safety Data Sheet

### Disclaimer:

The information, specified in this Product Information, is based on careful laboratory tests and prevailing practical experience. The information is not binding, which is also generally true for our practical customer service, given verbally, in writing and by tests, since, on account of the diversity of applications and use, also including possible industrial property rights of third parties. Analysis results and all information regarding state and suitability of our products are only guidelines with no obligation on our part. In addition, our General Sales and Delivery Conditions are applicable.

### Warranty Information:

NEDEX warrants only that its product will meet its technical specifications. NEDEX shall in no event be liable for incidental or consequential damage. NEDEX's liability expressed or implied is limited to the stated selling price of any goods found defective. This Technical Data Sheet supersedes all previous editions.