



We Only Exclusive Distributor For **OM** CHEMICALS India

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Mfg. DESICCANT, SILICA GEL WHITE, BLUE,
POUCHES, SODIUM SILICATE ALL GRADE & EXPORTER





...WE COME TO GRIPS WITH MOISTURE!

The image features a light blue background with a diagonal split. The left side is a slightly darker shade of blue, while the right side is a lighter shade. Numerous water droplets of various sizes are scattered across the surface, some in sharp focus and others blurred. A large, prominent water droplet is centered in the lower half of the image, overlapping the diagonal split.

Products

Company

We come to grips with moisture !

For more than 20 years we have specialized in •
protecting goods from moisture caused damage •
during transport and storage. Our solution: •
a systematic calculated application of desiccants •
to protect a wide range of goods from medical •
and food products to machines and textiles. •
Moisture means a high economic risk for manufacturers, •
carriers and recipients. Packing, •
dispatch and storage are key points at which •
insufficient care can have severe effects. Hermetic •
packaging is not sufficient to guarantee •
efficient protection. •
Changing climate conditions with temperature •
fluctuations during a sea transport of several •
weeks lead to condensation •
that causes corrosion •
in metals. If no protective measures are •
taken, damage to surfaces, reduced storage •
capability and effectiveness or function errors •
as well as “total loss” may be the result. •
PC makes risks and preventive care calculable. •

We come to grips with moisture !

Applicatory industry, product and case. The amount of •
desiccants a shipment requires is individually •
by **PC** based on DIN 55474. Not enough •
desiccant leads to risk. Too big amounts cause •
preventable costs. The programme is available •
for the clients as well. •

Key methods and quantity vary •

The solutions offered by Packmittel

GmbH are broadly recognized by a wide range
of insurance companies who do not hesitate
to grant coverage to shipments professionally
protected by **PC** solutions.

We come to grips with moisture !

- We come to grips with moisture and keep a tight grip on it! Our results are sustainable: as if there had never been any moisture at all. This is the **PC** philosophy for protection of goods and ,their value This brochure offers information about applications, industries, production, material and technology, as well as on our comprehensive product range.

Moisture is everywhere

Lots to do for desiccants

- Small or large – moisture threatens a nearly never-ending range of products from many industries. Surface corrosion of metals is not only a cosmetic problem. When moving parts in tool machines or conveyor technology are attacked, this leads to functional impairment up to uselessness.

Moisture is everywhere

Lots to do for desiccants

- Electronic devices from notebooks or communication equipment to the complete data system can be damaged by humidity. Visual measurement and test instruments, photo and film devices react as sensitive to moisture as textiles, leather goods and furniture. For chemical products, pharmaceuticals, raw materials and food, maintaining and controlling the internal package climate is of utmost importance.

Moisture is everywhere

Lots to do for desiccants

- **PC** Packmittel GmbH offers a wide range
- of solutions depending on product, packaging
- and individual requirements. The common
- denominator
- with which **PC** provides
- these solutions is “Knowledge”. **PC** has
- control of the various technologies, materials
- and industries. It combines this with a vast experience
- for the respective application.

Moisture is everywhere

Lots to do for desiccants

- There are criteria for each project we work on, The perfect basis is formed by **PC** desiccants they are non-toxic, odorless, free of hazardous substances and do not damage surfaces.
- They adsorb residual moisture in the packaging without endangering the goods or the recipient.

Moisture is everywhere

Lots to do for desiccants

- New developments like the **PC** technology permit efficient protection even in smallest containers .
- This new solution provides hermetically closing cans with integrated protection against moisture or bacteria, among others, it's used in transport and storage of medical and pharmaceutical products.

Moisture is everywhere

Lots to do for desiccants

The investment into desiccant solutions pays off.
Goods will reach the recipient undamaged.
Correctly protected shipments can be fully insured.

Technology and know-how.

Calculable protection

- **PC** desiccant bags are filled with highly resilient natural clay mineral or silica gel .
- The adsorption agent is so clean that even direct contact with the goods is not harmful and therefore allowed for various uses.

PC desiccants

are produced according to DIN 55473 (or military provision TL 6850-0008 and US specification MIL-D 3464 E). **PC** desiccant bags conform to EU laws and the directives of the US Food and Drug Administration (FDA), depending on design, which permits use in transport, packaging and storage of food and pharmaceuticals as well.

Technology and know-how.

Calculable protection

- The desiccant bag hull is made of dust-tight natron paper, highly tear-proof fleece or the special hull material Tyvek – depending on requirements.

Desiccant bags meet the requirements of DIN 55473, are available in the versions “A”

(low-dust) and “B” (dust-tight) and may be disposed of with the household waste; the desiccant

can be regenerated an unlimited number of times for reuse.

Technology and know-how.

Calculable protection

- **PC** uses packaging machines for precise customization of the desiccant bags.

desiccant bags are produced according to DIN 55473 from 1/6 units (approx. 6 g) to 32 units

(approx. 1,130 g). The adsorption capacity may be up to 35 % of their own weight, at 80 % relative

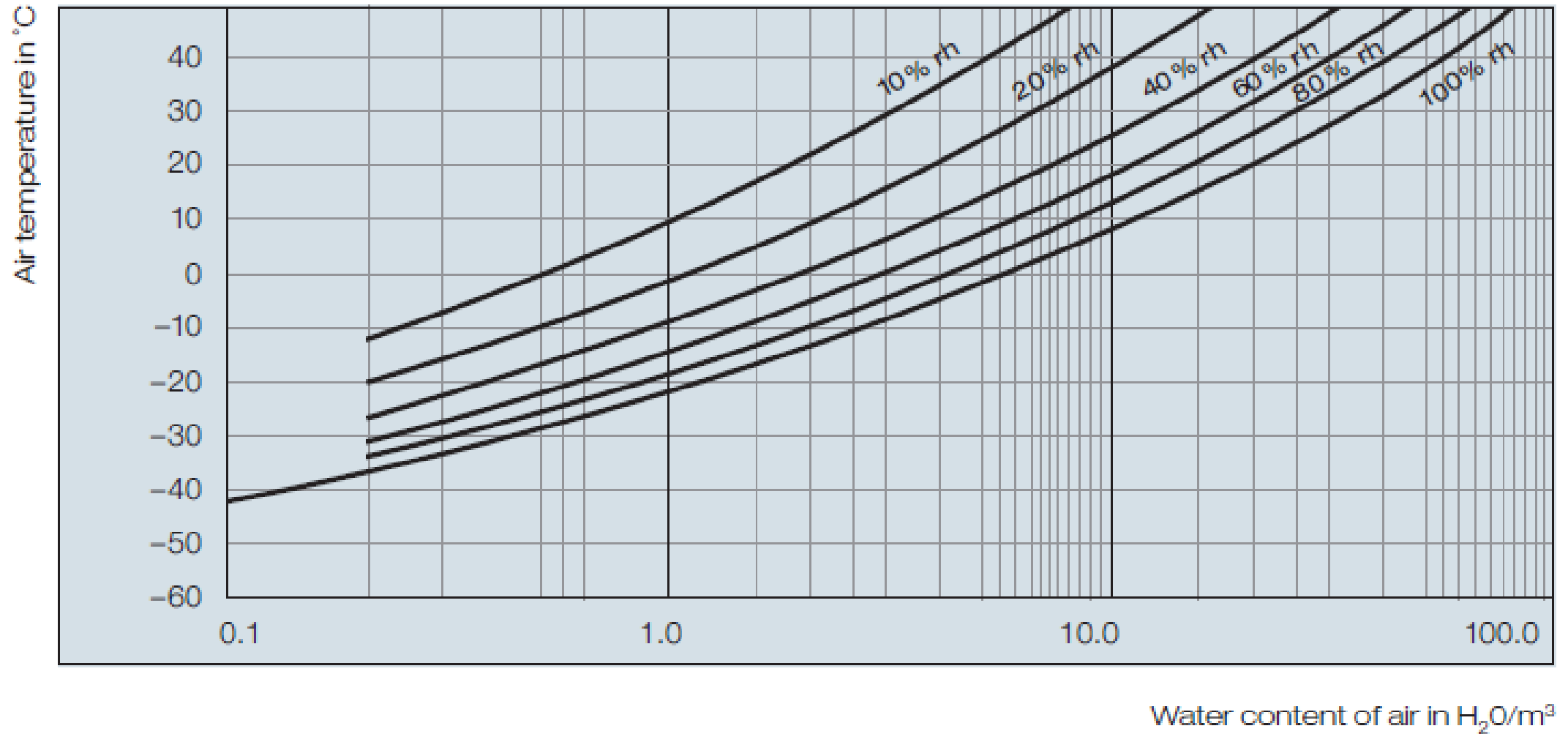
humidity and a temperature of 25 °C.

- Material, production and application of desiccant bags must be “clean”. However, in spite of its prohibition in the EU since May 2009, goods contaminated with dimethyl fumarate (DMF) are still getting into trade and endanger users as well as consumers. Stricter control mechanisms can reduce DMF danger.

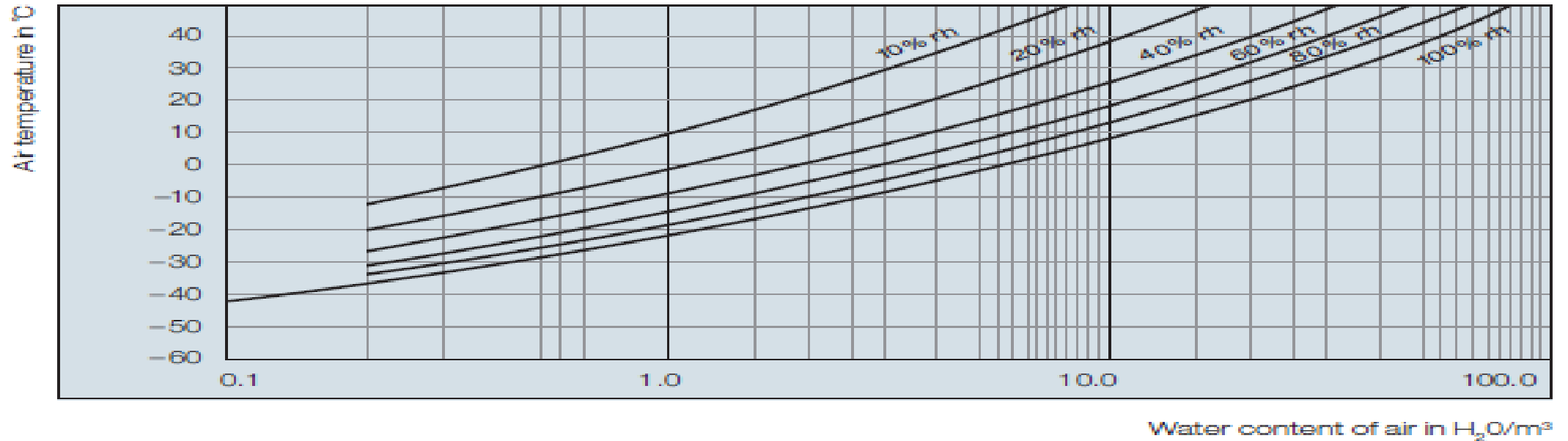
Desiccant bags

- Corrosion damage from moisture during transport and storage threatens a great number of goods from a wide range of industries. The range reaches from medical products to optical devices and electronics to machinery. Desiccant bags provide effective and environmentally compatible protection in a design perfectly suitable for each individual package. PC has developed a dedicated program for precise calculation of the required quantities. It is available to customers too. PC desiccant bags are filled with highly active desiccants that due to their high porosity warrant a high degree of air drying. Adsorption capacity can be up to 35 % of their own weight at 80 % rh and 25 ° C. PC desiccant bags are odorless, non-toxic, chemically indifferent and do not attack metal or other substances. The desiccant bag hulls are produced from the following materials that comply to the mentioned requirements: Fleece (version A – DIN 55473 low-dust), for standard products Tyvek® (version B – DIN 55473 dust-tight), low-particle and highly tear-proof for sensitive products Paper (version B – DIN 55473 dust-tight), low-particle for standard applications Desiccant bags – PC The hull substances are applied with a print pursuant to DIN 55473 by default. Alternatively, they can be provided neutrally with, “Drying Agent – Do not eat”, applied in 4 languages or an individual text. Desiccant bags are produced in the units defined in DIN 55473. Special sizes are available on request. A desiccant unit corresponds to a fill level of about 35 g. This is the desiccant volume that can adsorb at least 3 g of steam at 20 % and 6 g at 40 % relative humidity at a balance with air at 23 ° C (+/- 2). The required volume of desiccant in units for each individual case can be determined based on our calculation formula on page 23. The following factors must be observed: Packaging design Steam volume from the outer atmosphere penetrating through the packaging Duration of transport and storage time Climate at transport and storage Humidity of the inner atmosphere of the packaging Volume and type of the padding (wood, paper, synthetics, cardboard, wooden wedges) The TROPACK desiccant calculation program meets DIN 55473 requirements and is available to customers free of charge on request

Water content in the air depending on temperature and relative humidity



Water content in the air depending on temperature and relative humidity



Desiccant units according to DIN 55473 correspond approximately to the following fill volumes:

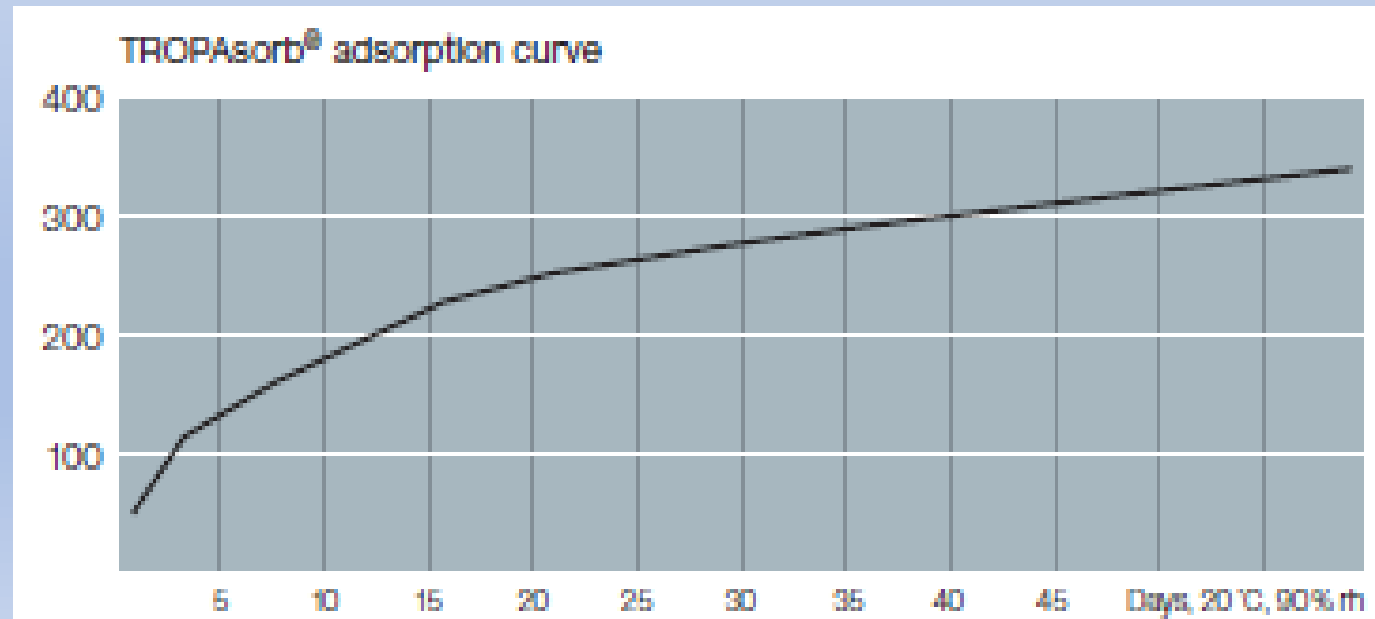
| | | | | | | | | | |
|---------------------------|-----|-----|-----|----|----|-----|-----|-----|------|
| Units | 1/6 | 1/3 | 1/2 | 1 | 2 | 4 | 8 | 16 | 32 |
| = g fill weight (approx.) | 6 | 12 | 18 | 35 | 70 | 145 | 285 | 540 | 1130 |

Desiccant bags for containers

- **PC**[®] desiccant bags were specifically developed for use in freight containers to protect the goods from damage caused by moisture in transport. The 200 gram desiccant bags adsorb large amounts of moisture to protect goods in metal containers, steel products from rusting, and prevent food from spoiling. **PC**[®] desiccant bags contain a specially developed patented adsorbent mixture (Calcium Chloride Vermiculite) against “container rain”, which occurs due to condensation in large steel containers because of the temperature and climate changes in the course of long sea transports. Protection against such changing conditions is important to prevent damage during transport by truck or train and long-term storage as well. The container desiccant bags are 13 x 28 cm in size. The number required for protection depends on container size; a typical 20-foot container requires 32 desiccant bag. **PC**[®] desiccant bags can adsorb up to 160 % of their weight (at 20 °C / 90 % rh) and enclose moisture. This highly efficient protection of the freight helps to avoid expensive returns of damaged goods. Application is simple. The bags can be placed on the floor in the corner of the container or suspended from container hooks in the upper third. Nets are available for this purpose. The bags are made of Tyvek[®] and are heat-sealed. The extremely resilient fabric of spun polyolefin fibres makes the bags dust-free. They have a wear-resistant, lint-free surface and are protected against heat. The bags come with a standard “do not eat” warning statement in German, English, French and Spanish. All bags can be imprinted with a warning or caution statement and your company logo according to your request. Please contact
- us at any time for further inquiries.

Desiccant bags for containers

| | | |
|---------------|------------------------------|-------------|
| Filling goods | Calcium Chloride Vermiculite | |
| Weight | g | 200 +/- 10% |
| Dimensions | mm | 13 x 28 cm |

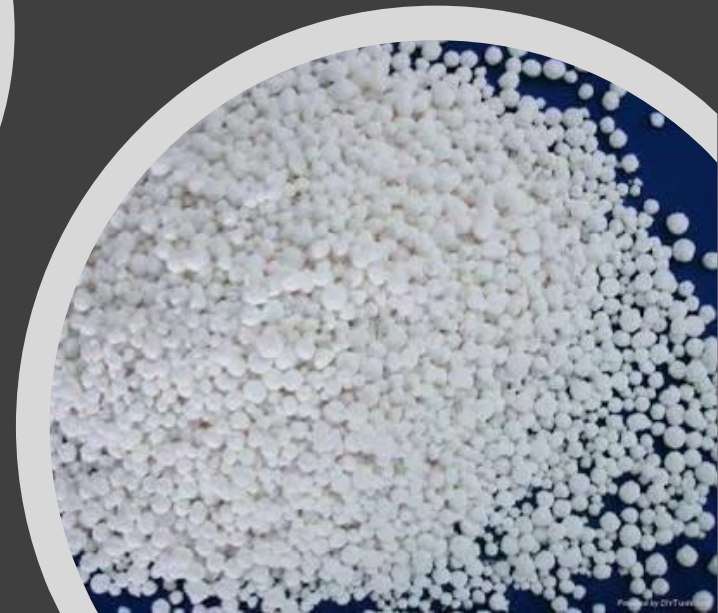
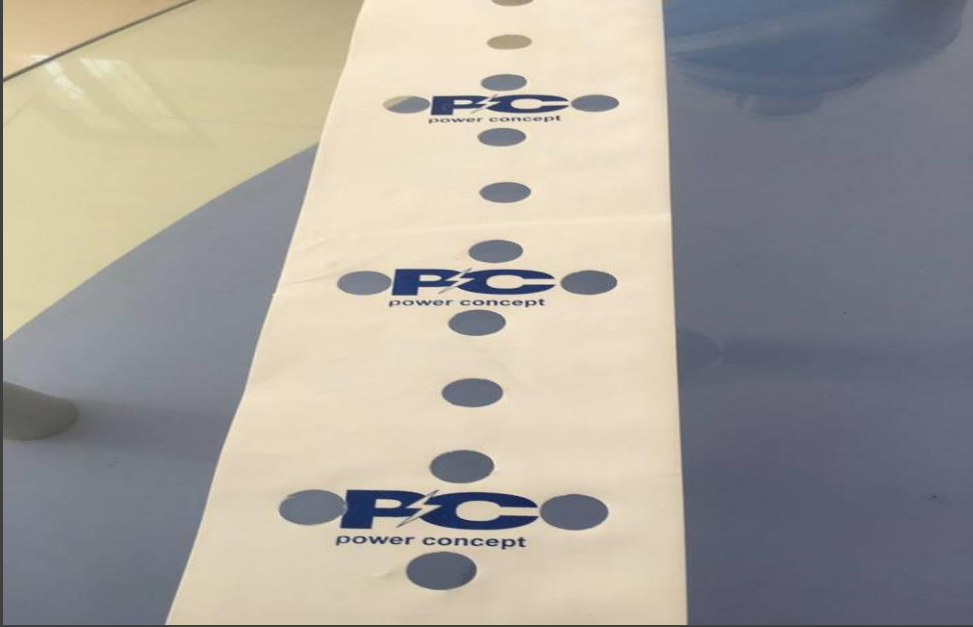


Calculation of desiccant units

The required number of desiccant units is calculated according to DIN 55474 as follows: $n = 1/a \cdot (V \cdot b + m \cdot c + A \cdot e \cdot D \cdot t)$ n = number of desiccant units a = water volume to be taken up per desiccant unit according to permissible final humidity. At 20 % rel. humidity $a = 3$ g 40 % rel. humidity $a = 6$ g 60 % rel. humidity $a = 8$ g e = corrective factor, relating to the final humidity for 20 % rel. humidity $e = 0.9$; for 40 % rel. humidity $e = 0.7$; for 60 % rel. humidity $e = 0.6$ V = Inner volume of the packaging in m^3 b = humidity ratio per m^3 air depending on temperature and relative humidity during packaging, e.g., at 20 ° C and 85 % rel. humidity $b = 15$ g / m^3 m = weight of hygroscopic packaging aids in kg c = factor for humidity content per gramme of hygroscopic packaging aids depending on drying condition for wood, paper and cardboard, undefined moisture $c = 140$; at defined pre-drying $c = 0$ A = sealing layer hull surface in m^2 D = steam permeability for the climate to be expected in g/m^2D . Determination according to DIN 53122 or value indication of the manufacturers of sealing layer foils t = transport- and storage duration in t (days) The TROPACK desiccant calculation programme according to DIN 55473 is available to the customer free of charge on request. The desiccant bags must be attached within the product packaging and if required, distributed throughout. Until application, the desiccant bags must be kept in the air-tight delivery packaging which must be closed at once after desiccant bags are removed to protect the unused bags. **PC**[®] desiccant bags are produced according to DIN 55473 or the German military regulation TL 6850-0008 and the American specification MIL-D 3464 E by the unit.

CONTAINER Desiccant







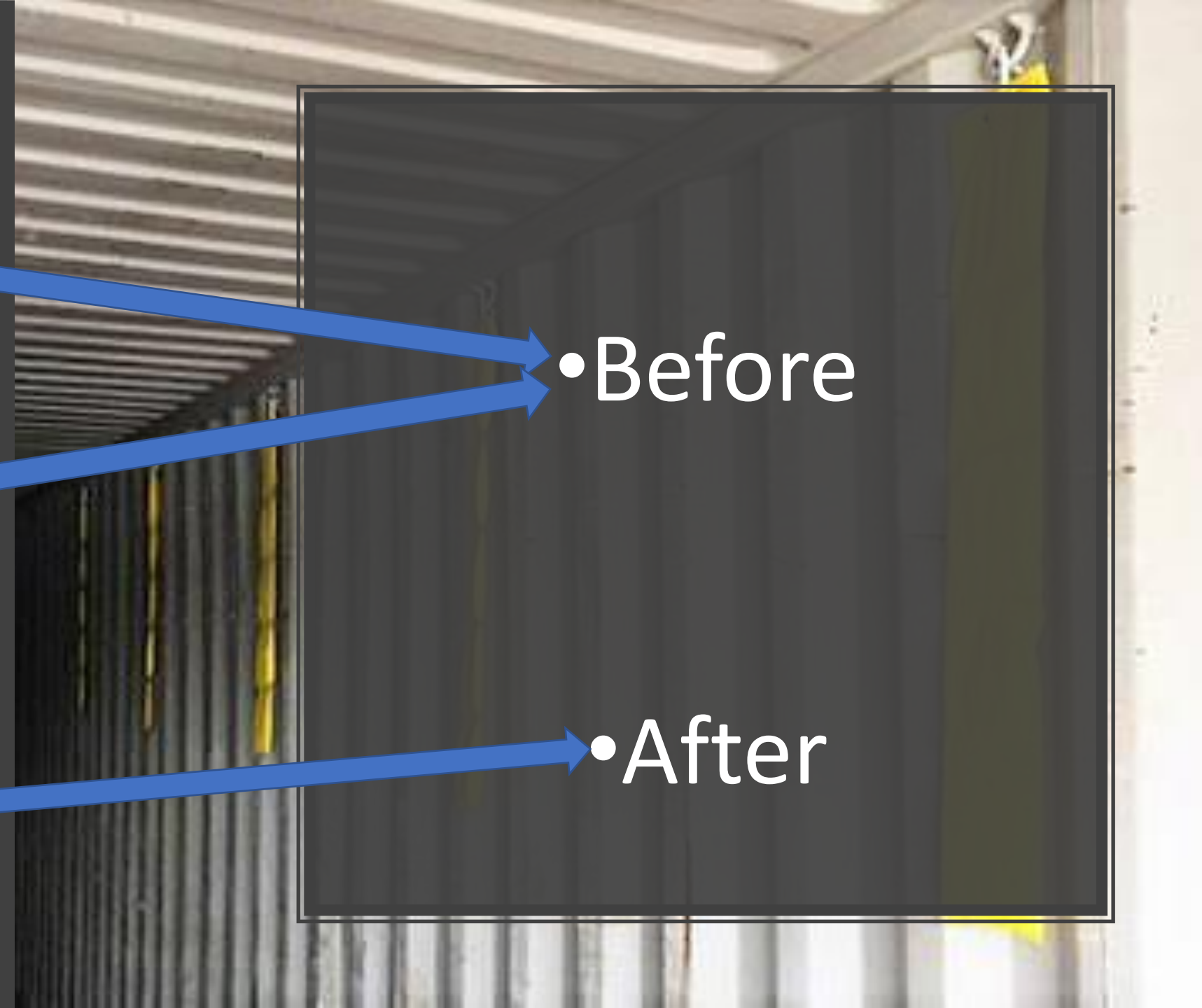
Our Raw
Materials





TRANSMISSION CORPORATION LIMITED
INDIA Limited, MAINS WORKS





• Before

• After



More variety of our sizes
Starting from 0.5gm : 1000gm

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