

“STORAGE & SHELF LIFE SPECIFICATIONS”

Rubber changes its physical properties during storage and ultimately become unserviceable due to hardening, softening, cracking, crazing or other surface degradation. These changes are the result of particular factors or combination of factors such as action of deformation, oxygen, ozone, light, heat, humidity or oils and solvents.

Shelf life of these products can be enhanced considerably by following few simple precautions :

*** Fundamental instructions on storage, cleaning and maintenance of elastomeric seal element are described in international standards, such as DIN 7716 / BS 4F68 and ISO 2230, or DIN 9088.**

The standards give several recommendations for the storage and the shelf life of elastomers, depending on the material classes.

The following recommendations are based on several standards and are intended to provide the most suitable conditions for storage of rubbers. They should be observed to maintain the optimum physical and chemical values of the parts:

- ◆ **Heat :** - The storage temperature should be preferably between +5⁰C and +25⁰C. Direct contact with sources of heat such as boilers, radiators and direct sunlight should be avoided.
If articles are taken from low temperature storage, care should be taken to avoid distorting them during handling at the temperature, as they may have stiffened. In this case, the temperature of the articles should be raised to approximately +20⁰C before they are put into service.
- ◆ **Humidity :** - The relative humidity in the store room should be below 70%. Very moist or very dry conditions should be avoided. Condensations should not occur.
- ◆ **Light :** - Elastomeric seals should be protected from light sources, in particular direct sunlight or strong artificial light with an ultraviolet content. The individual storage bags offer the best protection as long as they are UV resistant.
It is advisable to cover any windows of storage rooms with a red or orange coating screen.
- ◆ **Radiation :** - Precautions should be taken to protect stored articles from all sources of ionizing radiation likely to cause damage to stored articles.
- ◆ **Oxygen and Ozone :** - Where possible, elastomeric materials should be protected from circulating air by wrapping, storage in airtight containers or by other suitable means.
As ozone is particularly deleterious to some elastomeric seal, storage rooms should not contain any equipment that is capable of generating ozone.
- ◆ **Deformation :** - Elastomeric materials should, wherever possible, be stored in a relaxed condition free from tension, compression or other deformation.
- ◆ **Contact with liquid and semi-solid materials :** - Elastomeric seals should be allowed to come into contact with solvents, oils, greases or any other semi-solid materials at any time during storage, unless so packed by the manufacturer.
- ◆ **Contact with metal and non-metal :** - Direct contact with certain metals, e.g. Manganese, iron and particularly copper and its alloys, e.g. brass and compounds of these materials are known to have deleterious effects on some rubbers. Elastomeric seals should not be stored in contact with such metals.
Because of possible transfer of plasticizers or other ingredients, rubbers must not be stored in contact with PVC. Different rubbers should preferably be separated from each other.
- ◆ **Cleanin :** - Where necessary, cleaning should be carried out with the aid of soap and water or methylated spirits. Water should not, however, be permitted to come into contact with fabric reinforced components, bonded seals (because of corrosion) or polyurethane rubbers. Disinfectants or other organic solvents as well as sharp-edged objects must not be used. The articles should be dried at room temperature and not be placed near a source of heat.
- ◆ **Rubber Seals in assembled components :** - It is recommended that the units should be exercised at least every six months and that the maximum period a rubber seal be allowed to remain assembled within a stored unit, without inspection, be a total of the initial period stated above and the extension period. Naturally this will depend on the design of the unit concerned.

- ◆ **Shelf life and shelf life control** : - When stored under the above recommended conditions, the below given shelf life of several materials should be considered from the date of supply of seals / date of invoice.

AU, thermoplastics	4 years
NBR, HNBR, CR	6 years
EPDM	8 years
FKM, VMQ, FVMQ	10 years
FFKM	18 years
PTFE	unlimited

Elastomeric seals should be inspected after the given period. After this giving an extension period is possible, to be decided by the end user.

Rubber components less than 1.5mm thick are liable to be more seriously affected by oxidation, degradation even when stored in satisfactory conditions as recommended. Therefore they may be inspected and tested more frequently than it is mentioned above.

GUARANTEE & CONFORMANCE CERTIFICATE To Whomsoever It May Concern

We hereby certify that the materials supplied against below mentioned invoice are guaranteed against all manufacturing defects, faulty design and bad workmanship, for a period of 90 days from the date of Invoice. If any defect is noticed during the above said period, the defective part / parts shall be rectified or replacement supply arranged, on F.O.B. destination basis. This is subject to the verification & acceptance of the claim by the QA department of us. Assumption is also made to the extent that the products had been handled with utmost care and stored under specified conditions at receiving end. (Refer enclosed storage and shelf life specifications).

We also certify that the supplied products comply with the specifications indicated in your purchase order and conform to the relevant standards of the manufacturer.

* For any claims, the products should be returned to us (indicating clearly the supply details like Invoice No. & Date, your P.O. No. Etc.,) only after necessary clearance, in writing from us. We hold the rights to reject any claims, if supply information's provided by customer are insufficient to establish claims.

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TERMS OF BUSINESS

- * This cancels all our previous issues of the Price Lists.
- * Discount @ % is offered to you .
- * Packing & Forwarding @ 3% will be charged extra.
- * Prices quoted are F.O.R. Pune basis only.
- * Courier/ Transport charges will be charged extra at actuals.
- * **Taxes** All VAT / Excise Duty and applicable taxes extra.
- * **Payment** Should be released within 30 days from the date of supply. Late payment will attract interest @ 18% p.a.
- * **Delivery** Every endeavors will be made to complete your order within the delivery period as stipulated in the order. However we shall not be responsible for delay cause due to unforeseen circumstances. Part delivery of goods shall not be a ground for non acceptance of goods, invoices or payment.
- * **Validity** Prices are subject to change without any prior notice.
- * **Jurisdiction** All Supplies/Contracts are deemed to be entered in PUNE and are subject to the Jurisdiction of Courts in Pune.

