

MATERIAL DESCRIPTION

NBR - Acrylonitrile butadiene (nitrile):

Acrylonitrile-butadiene rubber, also known as nitrile rubber, abbreviated AB and NBR, is a copolymer of acrylonitrile and 1,3-butadiene and is one of the synthetic rubbers. Vulcanizates of this rubber have a high resistance to mineral oils, fats and hydrocarbons.

SBR - Styrene butadiene rubber:

Styrene-butadiene rubber is the starting material for the by far most produced variant of synthetic rubber. Its abbreviation is SBR, derived from the English term "Styrene Butadiene Rubber". It is a copolymer of 1,3-butadiene and styrene. SBR is the most widely used synthetic rubber today and usually contains 23.5% styrene and 76.5% butadiene. With a higher styrene content, the rubber becomes thermoplastic, but remains crosslinkable.

NR - Natural rubber:

Natural rubber or rubber (indian. cao 'tree' and ochu 'tear'; together 'tear of the tree') consists mainly of the elastomeric polymer cis-1,4-polyisoprene. It is mainly used for the production of rubber by vulcanization.

Natural rubber is mostly obtained in South-East Asia from latex, the latex of the rubber tree (*Hevea brasiliensis*), which originally comes from Brazil. Today, however, 60 % of the world's rubber requirements are covered by petrochemically produced synthetic rubber..

PUR (AU) - polyurethane:

Polyurethanes (abbreviation PUR; in linguistic usage also PU) are plastics or synthetic resins which are produced from the polyaddition reaction of dialcohols (diols) or polyols with polyisocyanates.

Diols and diisocyanates lead to linear polyurethanes, crosslinked polyurethanes by reacting, for example, triisocyanate-diisocyanate mixtures with polyols. Degree of crosslinking and a variable tightness of the crosslinking lead to plastics, which can be thermosets, thermoplastics or elastomers. In terms of quantity, polyurethane foams, as flexible or rigid foam, are the most important.

XLPE - Crosslinked polyethylene:

Polyethylene (abbreviation PE) is a thermoplastic material produced by chain polymerisation of ethene ($\text{CH}_2=\text{CH}_2$) with the simplified structural formula

Polyethylene belongs to the group of polyolefins and is partially crystalline and non-polar. It is by far the most frequently used (standard) plastic worldwide. All types of polyethylene are characterised by high chemical resistance, good electrical insulation and good sliding properties.

PVC - polyvinyl chloride:

Polyvinyl chloride, PVC for short, is an amorphous thermoplastic. PVC is hard and brittle and only becomes soft, malleable and suitable for technical applications by adding plasticizers and stabilizers.

EPDM - ethylene propylene rubber:

Ethylene-propylene-diene rubber (abbreviation EPDM, ethylene-propylene-diene) is a terpolymeric elastomer (rubber) and thus a synthetic rubber. EPM (ethylene-propylene copolymer) as well as EPDM belong to the statistical copolymers with saturated polymer skeleton (according to DIN designation: M group; in contrast, rubbers with unsaturated hydrocarbon chain belong to the R group, such as natural rubber NR, styrene-butadiene rubber SBR).