Nitrile Rubber Compound (DRLM-A4)

Nitrile rubber is comprised of the acrylonitrile (ACN) and butadiene monomers and it is a copolymer of them. It is most economical and recommending elastomer due to its excellent resistance to hydraulic fluids, silicone oils & greases, petroleum-based oils, ethylene glycol based fluid, water (<100^{o}C), dilute acids, etc. Nitrile rubber compounds are directly related to the proportion of ACN in the rubber. As the ACN content is increased, the heat resistance, ozone resistance, abrasion resistance, resistance to petroleum based fluids and hydrocarbon oil, tensile strength will improve with slight increase in their hardness whereas low temperature flexibility, gas permeability and rebound resilience will decrease.

Nitrile rubber known as NBR as per ISO 1629 (formerly it was known as Buna N), bears good mechanical properties when compared with other elastomers, high wear resistance and good aging properties under severe condition but more restricted to weathering, ozone, sunlight, aromatic hydrocarbons (benzene), polar solvents (ketone, acetone, acetic acid, ethylene ester), strong acids and high temperature applications. Components made from NBR can be used between -45^{o}Cand 100^{o}C and/or 120^{o}C for intermittent service condition.

DMSRDE has developed a medium range nitrile based rubber compound designated as DRLM-A4 having hardness between 75 and 90 Shore ‘A’. It has good balance between working temperature range, media compatibility/suitability and their strength. DRLM-A4 rubber compound is very suitable for use in air and hydraulic oil media of lower aromatic content.