ABSTRACT

Rubber arrange main of seal O-ring material and the most one of components is used in machining which function as partition to avoid contamination from pressure and fluid room. As partition of seal has to enough elasticity and can free move, so that it is needed the best of formula seal. The natural rubber has superior in elasticity case, flexibility and to avoid abrasion, if it is added in formula sintetic rubber (NBR) has avoid oil, so that it will have produced the characteristic of mechanic still fill to making seal requirement and in accordance with using and work condition.

To know producing which wanted from the rubber compound, it is needed research with making the rubber compound to seal O-ring with joining formula use NBR 100 phr + NR 0 phr to compound A, NBR 90 phr + NR 10 phr to compound B and NBR 80 phr + NR 20 phr to compound C. And the next step, take Vulcanisate physic test for o-ring application and also Rheometer test to decide the time for o-ring seal casting. The each compounds are cast in seal O-ring form and tested to leak standing instrument test with rotation 1500 rpm, temperature 100° C and pressure 6 kgf/cm². Then doing the hardness test.

The seal O-ring test for three compounds has not be leak to leak standing instrument test so that the three seal O-ring is recomendation to rotation 1500 rpm, temperature 100° C and pressure 6 kgf/cm². The produce of anava from three compounds to seal O-ring has influenced to hardness test so that with economy consideration has be chosen compound C to making seal O-ring because have superior other between the production process is cheaper because the price of natural rubber is cheaper than sintetic rubber and the cure time is shorter.