ABSTRAK

Seal O-ring which functions as an insulator and protector of the contamination from pressurized and fluidized room is a part of machine. As an insulator, seal must be so elastic enough that can be moved easily and freely. So we need good formula seal. Rubber which forms main components of seal consists of many types and it's specification of application is so various that we have to understand and use it in correct way. In elasticity, flexibility, and abrasive strength, elastomer SBR has almost the same characters with that of rubber. Seal needs the characters stated above beside the resistance to oil which NBR has. Throug the mixture of NBR and SBR hopefully we can get the formula of seal in line with the application and work condition.

For seal O-ring, in research we make rubber compound then modify the mixture by using NBR compound 100 phr, NBR compound 70 phr + SBR 30 phr, NBR compound 60 phr + SBR 40 phr. The compound yielded is vulcanized in accordance with the result of the rheometer test. The test done in vulcanizat is in line with the technical specification for seal application i.e. hardening test (ASTM D.112), fixed compression test (ASTM D. 395), volume change test (ASTM D. 471).

The result of vulcanizat test on NBR compound is 100 phr, NBR compound 60 phr + SBR 40 phr meets ASTM D. 2000. The characteristics of NBR mechanic compound 70 phr + SBR 30 phr is physically better of compared with both compounds in research. Due to economic value judgement NBR compound 70 phr + SBR 30 phr is good alternative in making seal O-ring considering to the price of SBR is much cheaper compared with NBR.