DETAILED INTERACTION STUDY OF CARBON BLACK-FILLED RUBBER COMPOSITES

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The higher increase in the torque values of CB/ACM composite than those of OX-CB/ACM composites observed, though it had lower bound rubber content, results in understanding that self ACM molecular interaction might strongly take place especially for CB/ACM composites using N330 black. On the other hand, the less CB-ACM interaction introduced higher ACM-ACM interaction force in the composite, i.e., higher $M_L$ and $M_H$. It is obvious that filler-rubber interaction seems to be also controlled by rubber-rubber interactions and vice versa. It clears that the reactive sites on both carbon black and rubber molecules play an important role on the interaction extents of carbon black-rubber as well as rubber-rubber.