The cure characteristics and rheology of NR/reclaimed rubber blends were investigated by varying reclaimed rubber contents from 20 to 80 phr. Increasing reclaimed rubber content resulted in an increase in the maximum torque. The cure time and cure rate of the STRVS60 rubber were more sensitive to the reclaimed rubber content than that of the STR20CV rubber, especially at high reclaimed rubber contents (60-80 phr). This was also the case for the cure rate characteristic. The scorch time decreased with reclaimed rubber content. The Mooney viscosity decreased with mastication, but increased with reclaimed rubber content. The rubber compounds used in this work exhibited pseudoplastic in nature. The shear viscosity of the STRVS60 compound was more sensitive to the reclaimed content than that of the SRT20CV compound.