tion elements in the practice of the present invention.

The graphs in Figs. 1 and 2 show, among other things, the percentage of acetone-soluble or unpolymerized monomer fraction or material present in the specimens prior to their being subjected to the heat tests; the loss in weight in terms of per cent in the specimens tested as measured by the percentage of acetone-soluble monomer or depolymerized material, and other acetone-soluble material resulting from the heat decomposition of the heat polymerized oils employed in preparing certain of the specimens, due to the heat tests made thereon; the loss in weight in terms of per cent in the specimens tested as measured by the percentage of benzol-soluble material formed in certain of the specimens and resulting from heat decomposition thereof during the heat tests; and the loss in weight in terms of per cent in the specimens tested as measured by the percentage of volatile materials given off by the specimens during and as a result of the heat tests.

It will be noted, in this connection, that the percentage of acetone-soluble material which was present in the specimens tested after they had been subjected to the heat tests, is a measure of the percentage of monomer fraction or heat depolymerized material, and other products of heat decomposition, in general, present in such specimens after they had been subjected to the heat tests. This test is also a measure of the percentage of the products of heat polymerization and heat decomposition, in general, formed in friction elements containing such materials when said friction elements are subjected to the temperatures to which such friction elements are subjected in use.

Similarly, the percentage of benzol-soluble material present in certain of the specimens, after they had been subjected to the heat tests, is a measure of the extent to which such specimens tested had undergone heat decomposition during and as a result of the heat tests, and this test is employed as a measure of the extent to which the friction-controlling materials referred to in certain of the graphs have undergone heat deterioration or decomposition.

The percentage of volatile material present in the specimens, after they had been subjected to the heat tests, is also a measure of the comparative stability of such materials when used as friction-controlling agents or ingredients in friction elements, and further indicates the extent or degree of heat decomposition of the materials tested.

As indicated at 10, in Fig. 1, a specimen of finely divided granules or particles composed essentially of butadiene-acrylonitrile copolymer synthetic vulcanized rubbery elastoprene, vulcanized with five per cent, by weight, of sulphur when tested at atmosphere temperature contained about 4.67 per cent acetone-soluble unpolymerized or monomer material. However, as may likewise be seen by reference to Fig. 1, and as therein indicated at 11, a specimen of finely divided particles or granules of butadiene-acrylonitrile copolymer synthetic vulcanized rubbery elastoprene, vulcanized with five per cent, by weight, of sulphur, after having been heated for 19.5 hours at a substantially constant temperature of 260° C., contained only about 0.28 per cent, by weight, of acetone-soluble or monomer material, thus indicating the marked stability of this material and its resistance to heat decomposition or heat depolymerization.

As indicated at 12 in Fig. 1, a specimen of finely divided particles of butadiene-acrylonitrile copolymer synthetic vulcanized rubbery elastoprene, vulcanized with five per cent, by weight, of sulphur, showed a loss of only about 5.26 per cent, by weight, as measured in terms of volatile material, after having been subjected to a substantially constant temperature of 260° C. for a period of 19.5 hours. Moreover, as indicated at 13 in Fig. 1, a specimen of this material showed a loss of only 0.21 per cent by weight, as measured in terms of benzol-soluble material, after having been subjected to a substantially constant temperature of 260° C. for 19.5 hours, thus indicating the high degree of resistance to heat decomposition possessed by this material.

As indicated at 14 in Fig. 1, a specimen of finely divided particles composed essentially of butadiene-acrylonitrile copolymer vulcanized with five per cent, by weight, of sulphur contained about eight per cent by weight, of acetone-soluble or monomer material, and a specimen of the same material showed a loss of about 6.5 per cent, by weight, as measured in terms of loss of volatile material, after having been subjected to a substantially constant temperature of 315° C. for a period of one hour, as indicated at 15 in Fig. 1.

As indicated at 16 in Fig. 1, a specimen of finely divided particles composed essentially of butadiene-acrylonitrile copolymer type synthetic vulcanized rubbery elastoprene, vulcanized with ten per cent, by weight, of sulphur, when tested at atmospheric temperature, contained about 4.58 per cent, by weight, of acetone-soluble or depolymerized material.

A specimen of finely divided particles composed essentially of butadiene-acrylonitrile copolymer compounded with ten per cent, by weight, of sulphur, showed a loss of about 5.60 per cent, by weight, as measured in terms of volatile material, after having been subjected to a substantially constant temperature of 260° C. for a period of 19.5 hours, as indicated at 38 in Fig. 1.

As indicated at 17 in Fig. 1, a similar specimen of this material after having been subjected to a substantially constant temperature of 260° C. for a period of 19.5 hours showed a loss by weight, as measured in terms of acetone-soluble material, of only about 0.27 per cent, thereby exhibiting the marked resistance to heat depolymerization possessed by this material.

A specimen of finely divided particles composed essentially of butadiene-acrylonitrile copolymer type synthetic vulcanized rubbery elastoprene, compounded or vulcanized with ten per cent, by weight, of sulphur, showed a loss in weight, as measured in terms of benzol-soluble material, of only 0.22 per cent, after having been subjected to a substantially constant temperature of 260° C. for a period of 19.5 hours, as indicated at 18 in Fig. 1.

As indicated at 19 in Fig. 1, a similar specimen of this material when subjected to a substantially constant temperature of 315° C. for a period of one hour, showed a loss of only about 7.6 per cent, by weight, as measured in terms of loss of volatile material, and, as indicated at 20 in Fig. 1, a similar specimen of the same material showed a loss of only about 7.4 per cent, by weight, as measured in terms of acetone-soluble material, when subjected to a substantially constant temperature of 315° C. for a period of one hour, thereby further demonstrating the marked resistance possessed by this material to heat deteri-