E2-03 A method of rubberising bitumen with natural rubber-latex

K Subramaniam
(*Polymer Division, Dept. of Chemical Engineering, Univ. of Moratuwa.*)

A two-stage laboratory scale method has been developed to produce rubberised bitumen based on natural rubber latex. In the first stage, natural rubber in the form of field latex stabilised with ammonia and potassium hydroxide, was added in required proportion into 80/100 grade bitumen melt at 95°C to give about 3% rubber in bitumen by mass. To facilitate the addition, the contents were coninuously stirred by means of the multi-stage, impulse counter current

impeller, a stirrer unit which causes the mix components to flow in both axial and radial directions. In the second stage the temperature of the mix was gradually raised to 100°C to vaporise the water in the latex. The problems encountered during the vaporisation of water such as frothing and bubbling were overcome by altering the speed of stirring.

The bitumen rubber blend thus obtained, on testing for quality, exhibited better technical properties than 80/100 grade bitumen, for applications.