

THE EFFECT OF BLANKETING ON THE PLASTICITY OF CREPE

G. MARTIN, B. SC., A.I.C., F.I.R.I.

AND

L. E. ELLIOTT, F.I.C., F.I.R.I.

(OF THE SCIENTIFIC STAFF IN LONDON OF THE
CEYLON RUBBER RESEARCH SCHEME)

IN Bulletin 49, p. 7, attention was drawn to a statement by Mr. O'Brien that "the procedure adopted in blanketing crepe varies considerably. For example in certain factories water-cooled rolls are used so that the temperature of the rubber is kept low. On other estates uncooled rolls are used, but are allowed to cool down after half-an-hour's work. Again on other estates there is no interval for cooling and the rubber temperature may rise to 50-55°C. The number of rollings may vary from three to five."

A set of samples was therefore prepared to determine the effect of different practices during blanketing on the plasticity of crepe, and it was concluded from the results of tests that rolling for blanketing purposes might cause a considerable increase in plasticity particularly if the rolls were not water-cooled. Some of the results were irregular and required confirmation.

A further set of samples has now been prepared to study the effect on plasticity of conditions of rolling during blanketing. The samples consist of lace crepe (control), crepe passed three and six times respectively through water-cooled blanketing rolls, and crepe passed three and six times respectively through somewhat hotter air-cooled blanketing rolls.

The following are the results of plasticity tests:

Sample No.	Treatment during blanketing	Before storage	After storage for six months at			
			32°F		60°F	
		D_{30} mms./ 100	D_{30} mms./ 100	Mastic- ation No.	D_{30} mms./ 100	Mastic- ation No.
1496	Lace crepe (control)	171	155	92	165	93
1494	3 rollings water-cooled rolls. Temperature of rubber 41°C	155	170	100	168	99
1497	6 rollings water-cooled rolls	160	153	97	162	97
1498	3 rollings air-cooled rolls	156	155	95	162	100
1499	6 rollings air-cooled rolls. Temperature of rubber 58°C	156	145	87	151	84

The samples were tested soon after arrival in London and the control lace crepe was found to be distinctly harder than the blanket crepe samples. On storing for six months at 60°F, however, the control sample became softer and did not differ greatly from the others.

The sample which was blanketed under extreme conditions by rolling six times on comparatively hot rolls became much softer than the others on storage and required less mastication. The other samples did not show marked differences.

It is concluded that blanketing has little effect on plasticity when the temperature of the rolls is kept low but that it may have a marked effect if the rolls become hot. On the whole this agrees with the results of previous tests (Bulletin 49, p. 7). To obtain rubber of uniform plasticity it is desirable that the blanketing rolls should be water cooled.