Production: RUBBER BASE PELLETS

Objective: Comparison of the hardness of 2 types of rubber base pellets by penetration with a 2mm cylinder probe

Type of action: Penetration test

Test setting:

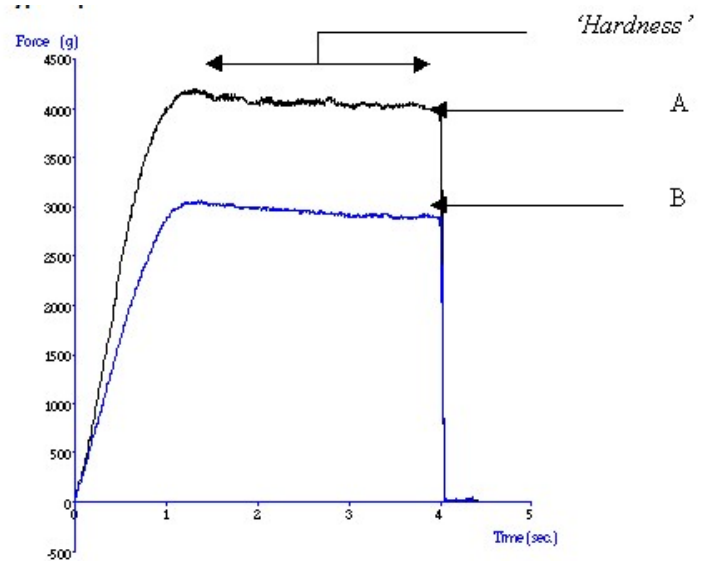
Speed	Test mode	Trigger	Target	Hold
1 mm/s	Distance (c)	5 gf	2 mm	0 sec

Accessory:

ϕ2 mm cylinder probe, Platform

Test Set-Up:
Place the Heavy Duty Platform onto the machine base. Position the sample on the platform, centrally under the probe, and commence the test. It is important that regular shaped samples are selected and it is advantageous for the pellets to have a flat under side.

Typical plots:



The above curves were produced from penetrating two different types of rubber base pellets at 20C.

Observations:
The probe approaches the sample and once the 5g trigger force is attained, a rapid rise in force is observed, as the probe penetrates through the interior of the pellet. The probe returns to its original starting position when a penetration distance of 2mm from the trigger point is reached. The mean penetration force is measured as an indication of the hardness. Clearly type A is harder than type B.

Data Analysis:

☒Ave (+) (From 1 to 3.5 second)

Results

Sample	Mean Force 'Hardness' (+/-S.D.) (g)
A	3.9 +/- 0.2
B	2.8 +/- 0.1

Notes:

- Before commencing each test, consideration should be taken to ensure that there are no apparent weaknesses along the exposed sample testing region which would result in lower values.
- The time period given is a general example for the analysis of a curve such as the ones above, any changes made to the test parameters or significant differences to the shape of the curve profile may require change.
- As these products are temperature sensitive, it is important that the temperature is carefully controlled so that test data can be compared.
- When attempting to optimize test settings it is suggested that the first tests are performed on the hardest samples to anticipate the maximum testing range required and ensure that the force capacity allows testing of all future samples.