

ICAR-CIRCOT :

ICAR-CIRCOT established in the year 1924, is engaged in basic and strategic research on processing of cotton and its agro-residues, development of value added products and quality assessment. Skill development and business incubation services are undertaken at the institute and it also functions as a referral laboratory for cotton fibres.

AGRI BUSINESS INCUBATION (ABI):

ICAR-CIRCOT has established Agri Business Incubation (ABI) Centre at Mumbai to facilitate incubation of new enterprises for innovative technologies by admitting them and providing physical, technical, networking support and services. The centre provides services, facilities and need based business support to start-ups and entrepreneurs to test their venture before setting up of their own enterprise.



Rubber Engineers

Rubber Engineers is a manufacturing unit promoted by a rubber technology graduate having 23 years of experience in the line of rubber product development and manufacturing, engaged in the manufacturing of specialty moulded rubber goods.

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CIRCOT-RE Baton

**Cotton Fabric Reinforced
Rubber Baton**

A Boon to Security-Police Force

ICAR-Central Institute for Research on Cotton Technology
(ICAR-CIRCOT)

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Rubber Engineers



Introduction :

In India a baton is often referred to as a lathi. Baton is used as a security equipment by the police force or military during public order situation. A baton charge or lathi charge is a coordinated tactic for dispersing the mob. Baton charging is designed to cause pain or fear of pain, in the hope that they would be compelled to move away from the scene, dispersing the crowd. During early days heat treated reed, cane or bamboo of about 800-900 mm length was used as police baton. Other type of baton available is made of rubber, but it is either heavier or shorter in length than required. Demand for alternate material is felt due to concern regarding deforestation and unavailability of raw material in sufficient quantity. Another problem associated with the conventional police baton is that of non-uniformity in length, thickness and weight within the same lot. Therefore, these batons were replaced by carbon reinforced PVC or poly carbonate pipes fitted with handles and end cap. A novel product **“Cotton Fabric Reinforced Rubber Baton”** has been developed. This product has better functional properties like sturdiness, required flexibility and durability. It does not cause cuts and wound as it has less chance of breaking during mob handling thus improving the self-confidence of policemen without posing a threat to their life.

Cotton Fabric Reinforced Rubber Baton :

Developed as an alternative to conventional baton.

Manufacturing Technique: The cotton fabric reinforced rubber baton is composed of a tough inner core and moderately soft outer fabric reinforced rubber body.

Inner core: It is composed of resin toughened natural fibres, bamboo, coir etc. Inner core provides the product its required rigidity and strength. Fibres are oriented and arranged lengthwise, tied tightly with cotton thread and cotton fabric. It is then dipped into polymer resin for curing.

Cotton Fabric reinforced Rubber body: Cotton fabric is treated using special rubber solution for improved adhesion. Treated cotton fabric is wound tightly over the core with weft passing in radial direction to the surface. Green rubber compound of required thickness is wound over the fabric. The baton is molded at appropriate temperature and pressure.

Specification :

Length	: 850 mm
Diameter	: 22 mm
Weight	: 400 ± 50 gm
Flexural Strength	: 113 N/mm^2

Special Features of CIRCOT- RE Baton :

- Made by using cotton fabric, resin, natural rubber and fibre and moulded by compression moulding technique at high temperature and pressure
- Stability ensured by special toughening technique
- Unique design of the baton gives the user practical ease of use and balance
- Single piece moulding ensures durability
- Ridges on handle provides strong grip to avoid slipping
- Handy as a walking stick
- The leverage of the baton allows freedom to manoeuvre the baton as demanded by the occasion
- High impact-absorbing capacity
- Flexibility and durability
- Unrivalled in quality, purpose and result.

