



KANTA SYSTEM OF RUBBER SEAL FOR HYDRAULIC GATES (BUREAU OF INDIAN STANDARD: 11855 – 1985)

Dams and barrages are built for storage / diversion of water for irrigation or generation of electric power. In concrete dams, tunnels / spillways, head regulator of hydel channels, fore bay intake structure, by-pass channels and draft tube of power house, the flow of water is controlled with the help of hydraulic gates.

To prevent flow of water past a closed gate, seals are provided either on the gate or on the metal frame in the gate slot. Rubber is the most commonly used material for seals, as it is elastic, deforms readily and regains its original shape on removal of load.

FORCES ON SEAL

The forces developed in the seal due to compression on account of interference and due to deflection is indicated in the curves as shown

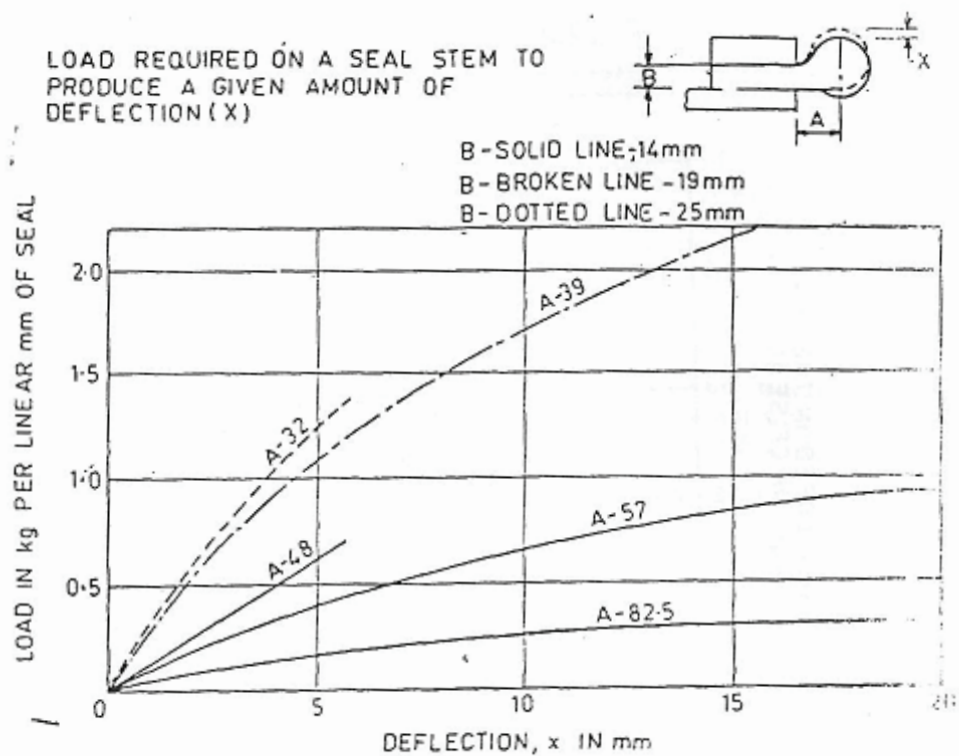
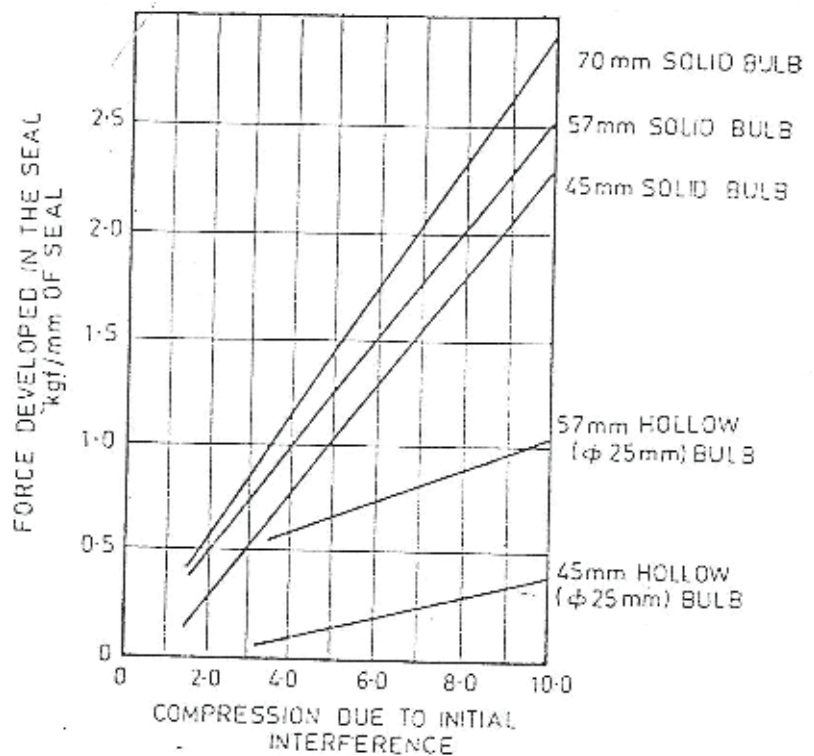
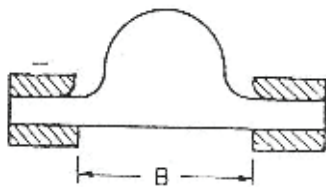


FIG. 8 FORCES DEVELOPED DUE TO DEFLECTION

This chart will guide for calculation of load required to compress the bulb portion of the seal in contemplated installation. These values shall be used as an approximation only because of time effect of ageing and repeated compression cycles of rubber will influence the result.

RAW MATERIAL

Kanta System rubber seal is fabricated from a high grade of rubber compound blended with natural and synthetic polymers.

THE RUBBER COMPOUND WILL HAVE THE FOLLOWING PROPERTIES:

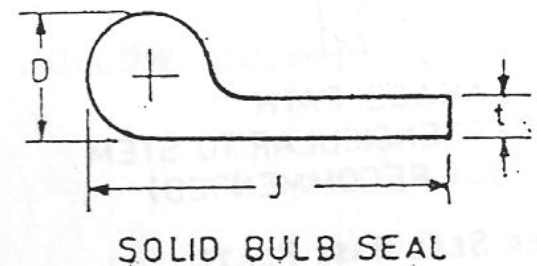
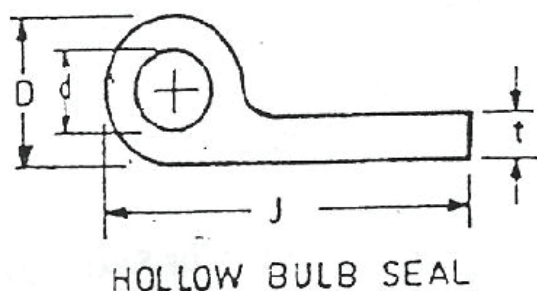
- (a) Shore Hardness : 65 +/- 5 in Shore A scale
- (b) Elongation at break : 450% minimum
- (c) Ultimate tensile strength : 145 Kg/ cm² minimum
- (d) Water absorption : 10% maximum in 7 days

PRODUCT

Kanta System of rubber seals are either molded or extruded to the required cross section. There are few types of rubber seals having different shapes and designs which are generally called as:

- (a) Angle shaped seal
- (b) Flat / wedge seal
- (c) Musical note seal (Solid bulb & hollow bulb)
- (d) Double bulb seal

Most commonly, musical note seal are in use on gates operated for 30 meters water head, which shape and designs are detailed:



STANDARD DIMENSION CHART

DESCRIPTION	J	D	d	t
Solid and Hollow	57	22	10	8
Solid and Hollow	100	44	25	14
Solid and Hollow	125	44	25	14

Hollow bulb music note seal is generally recommended gates operated at low water head up to 15 meters and solid bulb music note seal is recommended for gates operated at medium water head between 15 and 30 meters