

DESIGN REQUIREMENTS AND DIMENSIONS FOR A COMFORTABLE WORK SEAT FOR SRI LANKANS

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A work seat may be called an essential requirement for most workers, either to perform work with less fatigue or as an aid for relaxation. Sitting takes the weight off the legs, reduces energy consumption and avoids unnatural body postures. There are also drawbacks such as slackening of abdominal muscles due to prolonged sitting and curvature of spine that may cause inter-vertebral disc pressure resulting in backache. In order to maximise the advantages and to minimise the drawbacks it is important to apply medical and ergonomic ideas in the design of seats for work.

A National Survey of body dimensions was conducted by the author in Sri Lanka and the standard dimensions of Sri Lankans are now available. Based on this data recommended dimensions for a comfortable work seat that could suit 90% of the male population are given in Figures 1 and 2. Dimensions for a female work seat are also given in parenthesis.

SECTION F

The other important recommendations are: a backward tilt of the seat surface of 14-24° to the horizontal to prevent buttocks sliding forwards, a high back rest where occasional lean back is required, a lumbar support on the back rest and an inclined back rest 105-110° to seat or 110-130° to the horizontal. (The lumbar region is the part of the vertebra between the lowest rib and the upper hip bone). For arm chairs, arm rest height from seat surface of 19.8 cm for males and 18.5 cm for females are recommended.

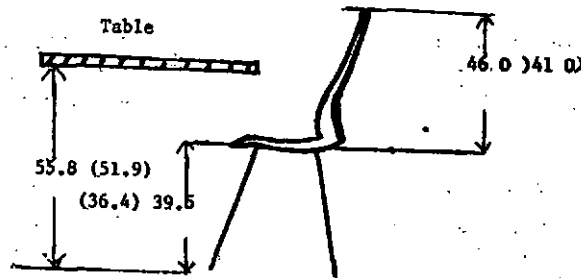


Figure 1 Work seat (Side view)

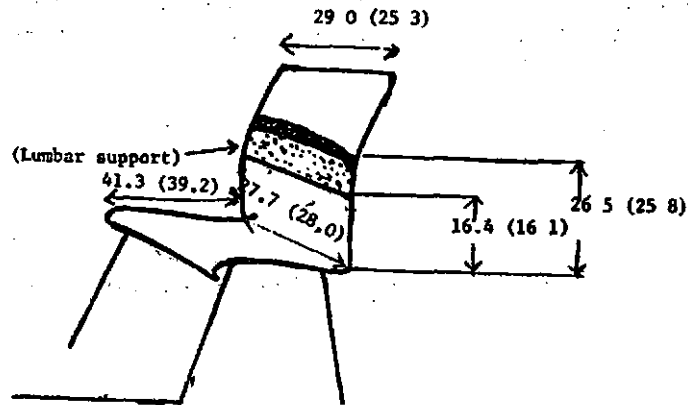


Figure 2 Work seat (Front view)

All measurements in centimeters