



CYCLE-MASTER™ Tough Rubber Doors

Energy Saver

When determining the efficiency of most door systems in relation to energy conservation, the critical statistic is usually the “R” factor of the material used in the body of the door itself. Overlooked in nearly all cases is the heat loss that any door system incurs around the perimeter of the opening.

This is due mainly to the continual problem of having to constantly adjust the door track and hardware to maintain a close contact between the body of the door and the edges of the opening.

While the body of a Cookson Cycle-Master™ rubber door system is comprised of a rubber curtain only ¼” thick (offering little in the way of an impressive “R” figure), the unique sealing qualities of the rubber within the guide system provides for a near-perfect seal around the opening at all times.

Thus the Cookson Cycle-Master™ rubber roll-up door systems can be just as effective in total energy conservation as even the best of conventionally insulated industrial doors. The example below provides our rubber roll-up vs. R14 insulated sectional door. The following assumptions and calculations are consistent, see example below:

- a) All door sizes are assumed to be 14’ wide x 14’ high
- b) Heat lost is calculated both through the body of the door and around the perimeter of the opening
- c) Heat lost is calculated with the door in the close position only
- d) The body of the door is calculated based on the same square foot size (i.e.: 14 x 14 = 196sq/ft)
- e) The perimeter is calculated around the opening including the base (i.e.: 14+14+14= 42 feet)
- f) Infiltration of air around the perimeter of a door opening has been determined by independent testing at 20 CFM.
- g) The “R” figures listed in the below example are stated by the manufacturers of the respective door system.

EXAMPLE:

COOKSON VS R-14 insulated sectional door:

R value for Cookson rubber roll-up = 0.6
R value for the insulated sectional door = 14.0

COOKSON BTU’S LOST/HR

Heat lost – door body (196 x 1/.6 x 70) = 22867
Heat lost - perimeter (42 x 10 x 1.08 x 70) = 31752
Total BTU/HR = 54619

SECTIONAL BTU’S LOST/HR

Heat lost – door body (196 x 1/14 x 70) = 980
Heat lost - perimeter (42 x 20 x 1.08 x 70) = 63504
Total BTU/HR = 64484

Conclusion: The R14 sectional door will loose approximately 9,865 more BUT’S per hour, due to section and perimeter air infiltration. Unlike conventional sectional doors the greater the pressure on the Cookson Cycle-Master™ door the better the seal, thus offering the best energy savings available.

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