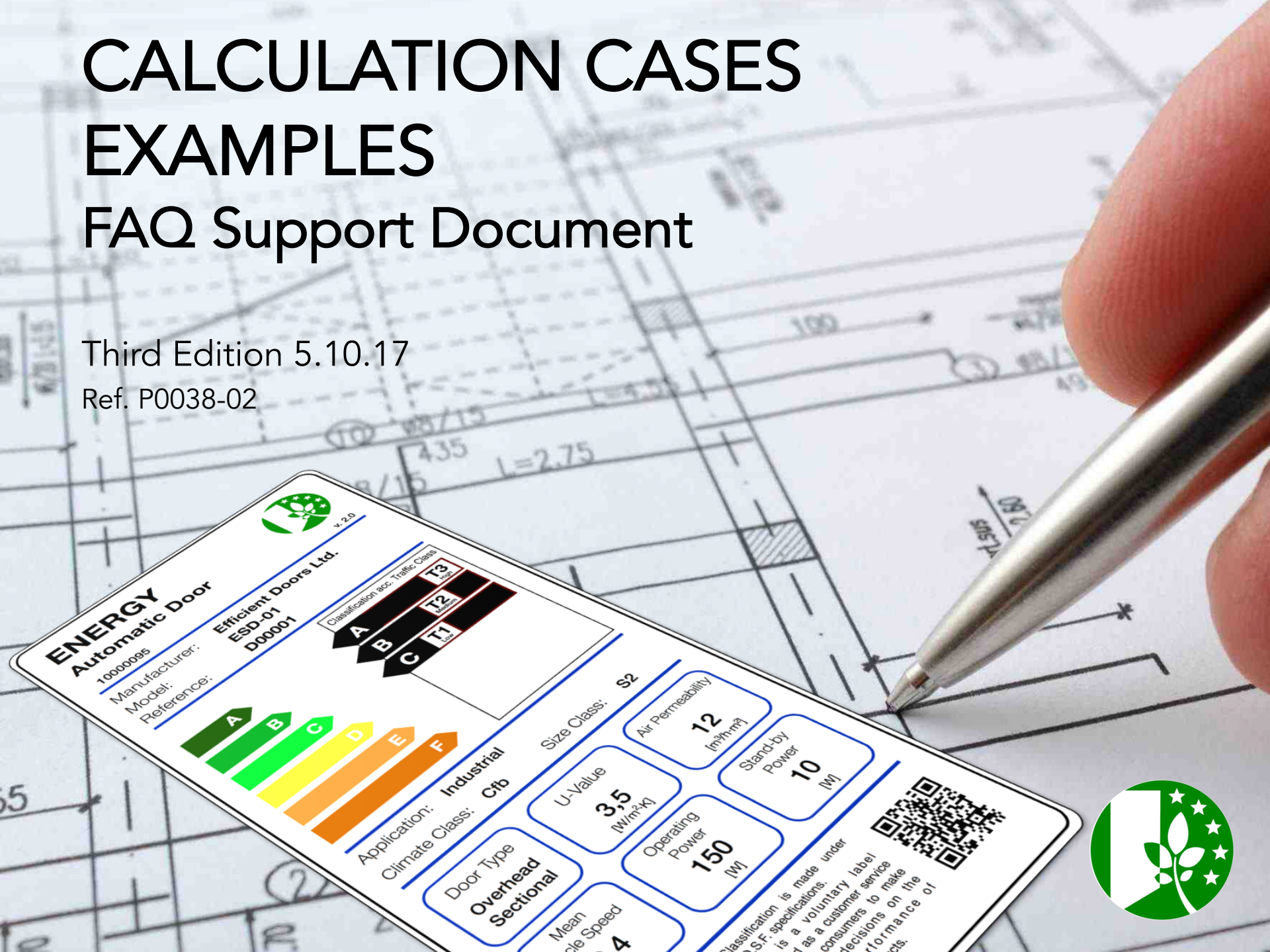
EDSF Energy Label
for automatic doors

CALCULATION CASES EXAMPLES

FAQ Support Document

Third Edition 5.10.17

Ref. P0038-02



Introduction

In this document we show several label calculation examples for a better understanding of the system, showing the relative weight of the different factors for the three application classes:

- Industrial Doors: Cases 1A, 1B & 1C
- Pedestrian Doors: Cases 2A, 2B & 2C
- Residential Garage Doors: Case 3

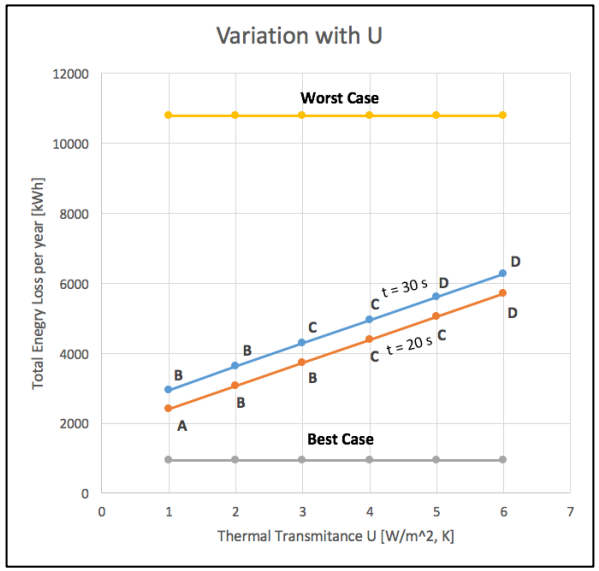
Case 1A

LOW TRAFFIC **INDUSTRIAL DOOR**

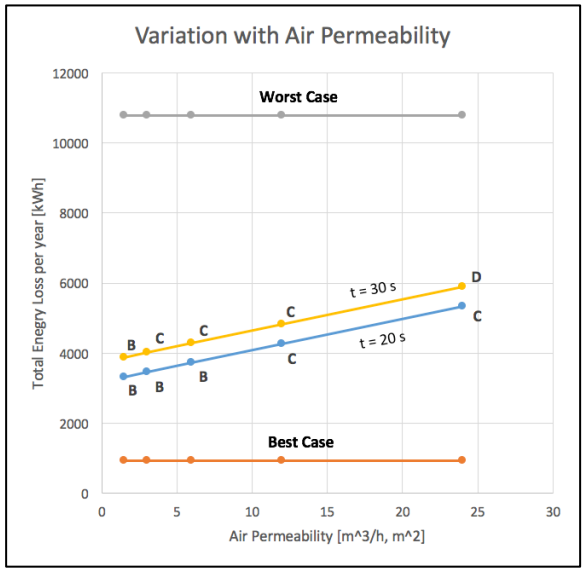
Location: Belgium
A = 4 x 3,5 m
N = 1500 cycles per year

Climate Class CFd
Size Class S3
Traffic Class T1

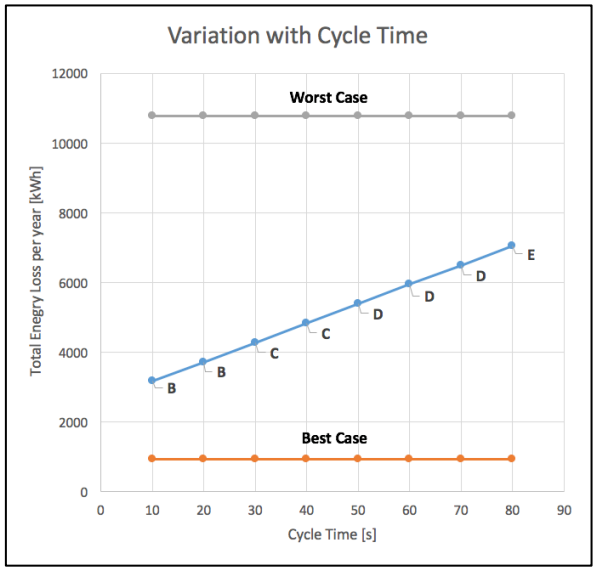
Weight = 160 kg
Power = 150 W
Stand-by Power = 10 W



L = 6 m³/h m² (50 Pa)
t = 30 s, 20 s



U = 3 W/m² K
t = 30 s, 20 s



U = 3 W/m² K
L = 6 m³/h m² (50 Pa)

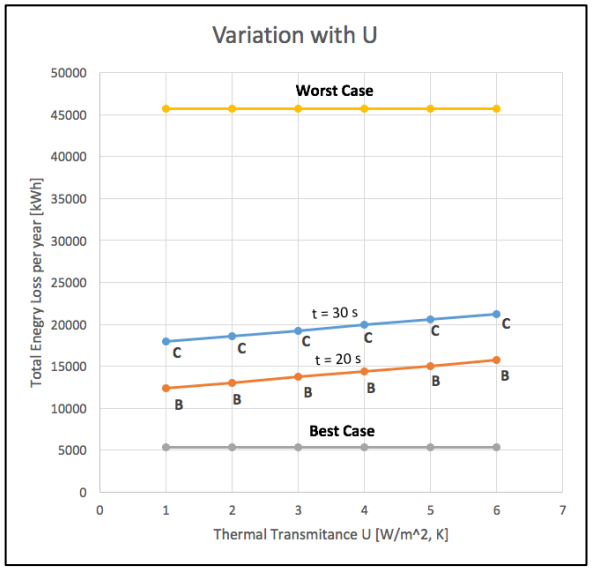
Case 1B

MEDIUM TRAFFIC **INDUSTRIAL DOOR**

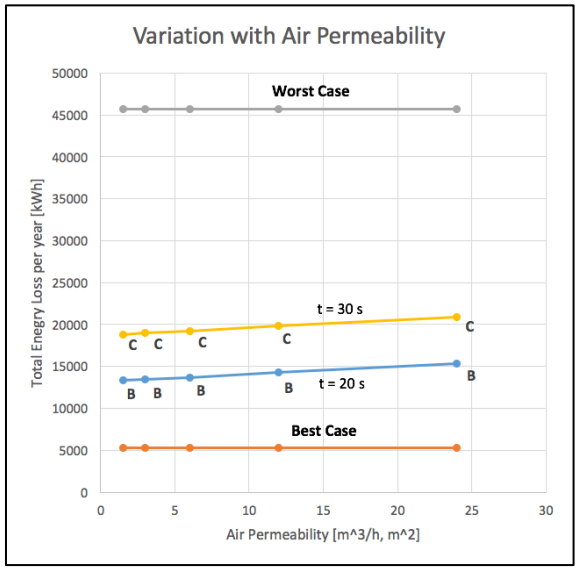
Location: Belgium
A = 4 x 2,5 m
N = 15.000 cycles per year

Climate Class CFd
Size Class S4
Traffic Class T2

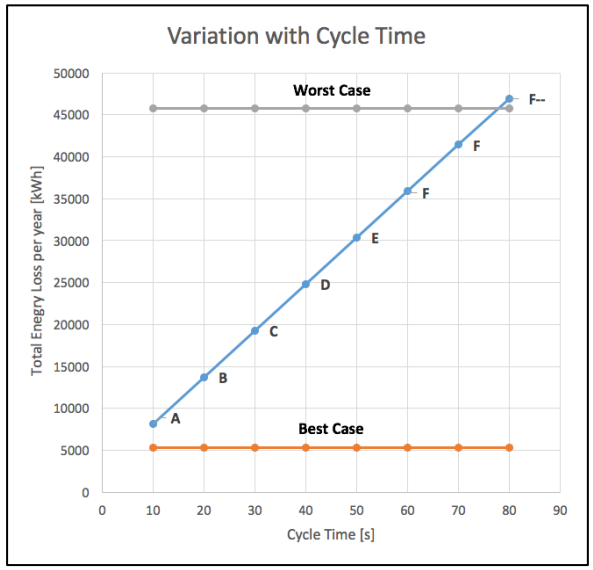
Weight = 160 kg
Power = 150 W
Stand-by Power = 10 W



L = 6 m³/h m² (50 Pa)
t = 30 s, 20 s



U = 3 W/m² K
t = 30 s, 20 s



U = 3 W/m² K
L = 6 m³/h m² (50 Pa)

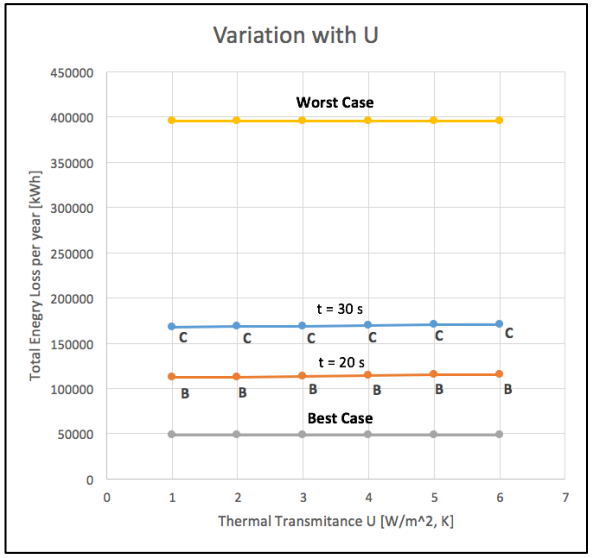
Case 1C

HIGH TRAFFIC **INDUSTRIAL DOOR**

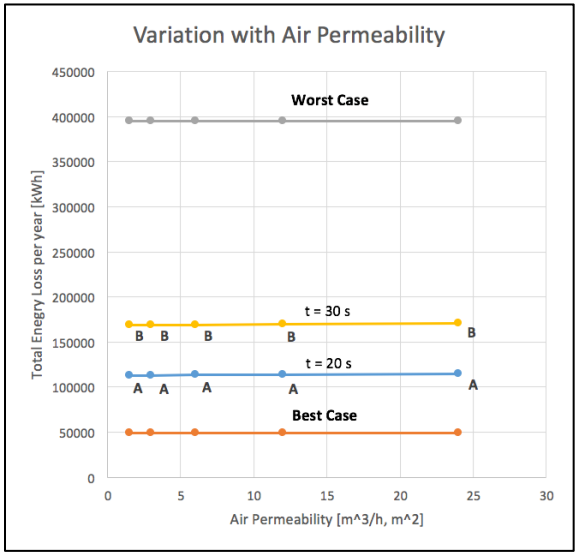
Location: Belgium
A = 4 x 3,5 m
N = 150.000 cycles per year

Climate Class CFd
Size Class S4
Traffic Class T3

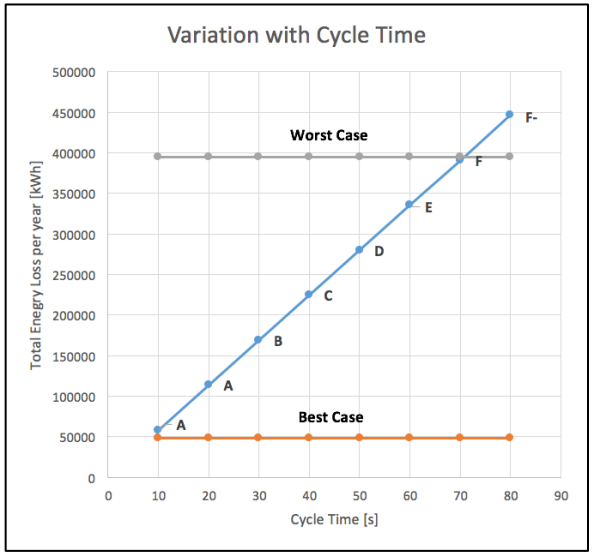
Weight = 160 kg
Power = 150 W
Stand-by Power = 10 W



L = 6 m³/h m² (50 Pa)
t = 30 s, 20 s



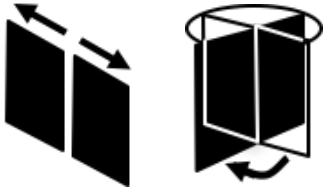
U = 3 W/m² K
t = 30 s, 20 s



U = 3 W/m² K
L = 6 m³/h m² (50 Pa)

Case 3

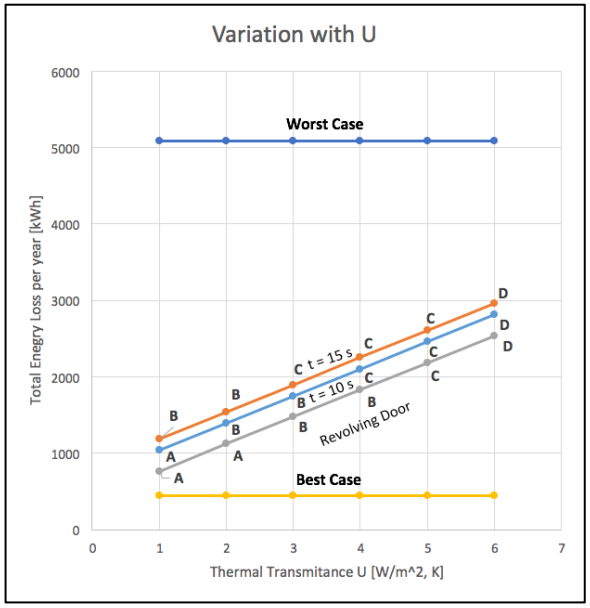
LOW TRAFFIC **PEDESTRIAN DOOR**



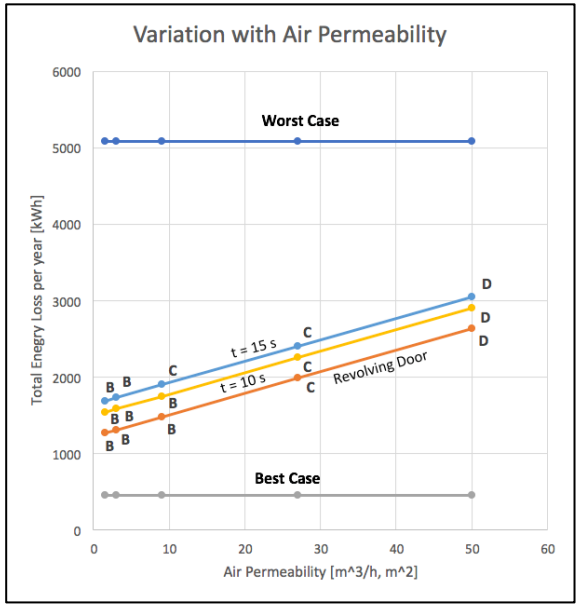
Location: Belgium
A = 3 x 2,5 m
N = 1.500 cycles per year

Climate Class CFd
Size Class S4
Traffic Class T1

Weight = 80 kg
Power = 90 W
Stand-by Power = 15 W



L = 9 m³/h m² (100 Pa)
t = 15 s, 10 s, 0 s (revolving door)

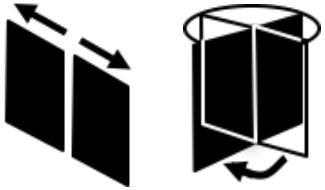


U = 3 W/m² K
t = 15 s, 10 s, 0 s (revolving door)

U = 3 W/m² K
L = 9 m³/h m² (100 Pa)

Case 4

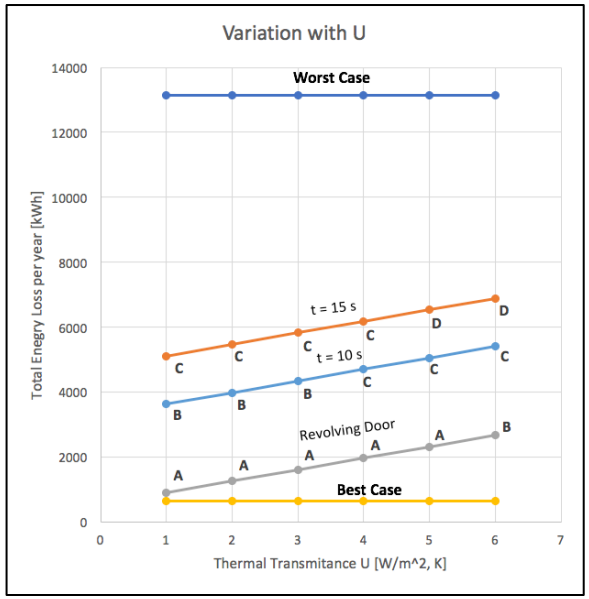
MEDIUM TRAFFIC **PEDESTRIAN DOOR**



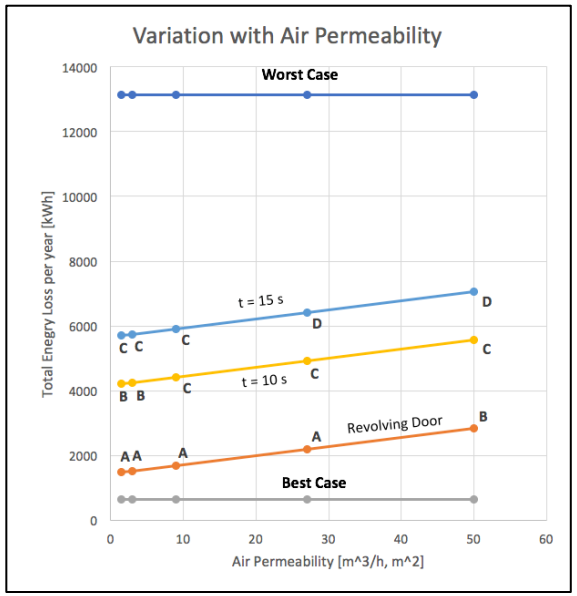
Location: Belgium
A = 3 x 2,5 m
N = 15.000 cycles per year

Climate Class CFd
Size Class S4
Traffic Class T2

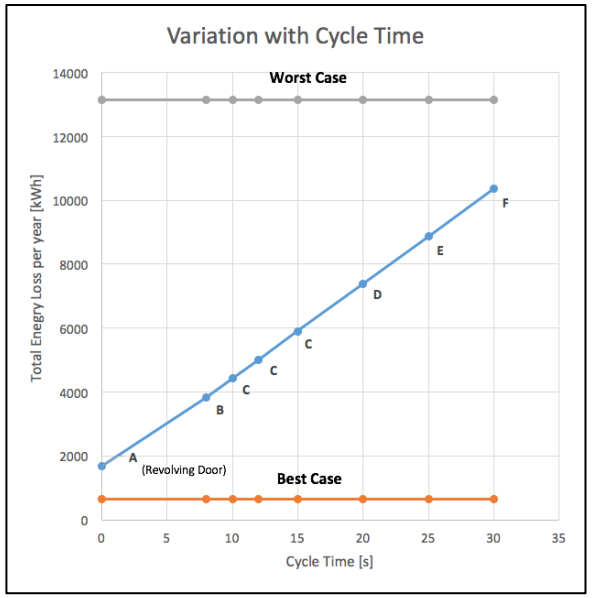
Weight = 80 kg
Power = 90 W
Stand-by Power = 15 W



L = 9 m³/h m² (100 Pa)
t = 15 s, 10 s, 0 s (revolving door)



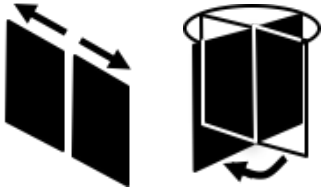
U = 3 W/m² K
t = 15 s, 10 s, 0 s (revolving door)



U = 3 W/m² K
L = 9 m³/h m² (100 Pa)

Case 4

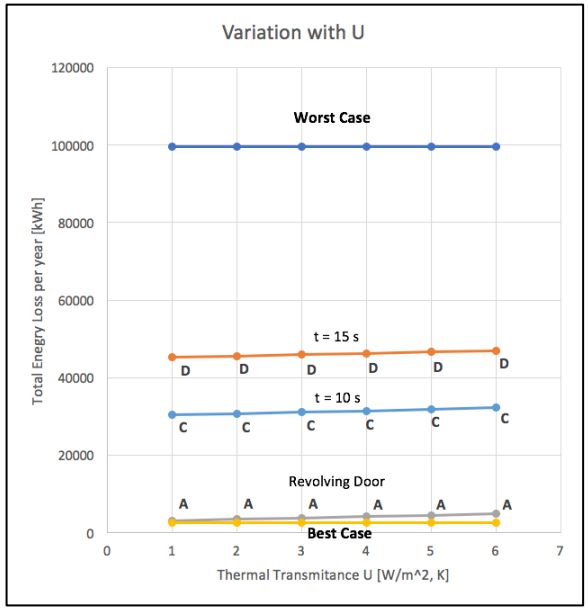
HIGH TRAFFIC **PEDESTRIAN DOOR**



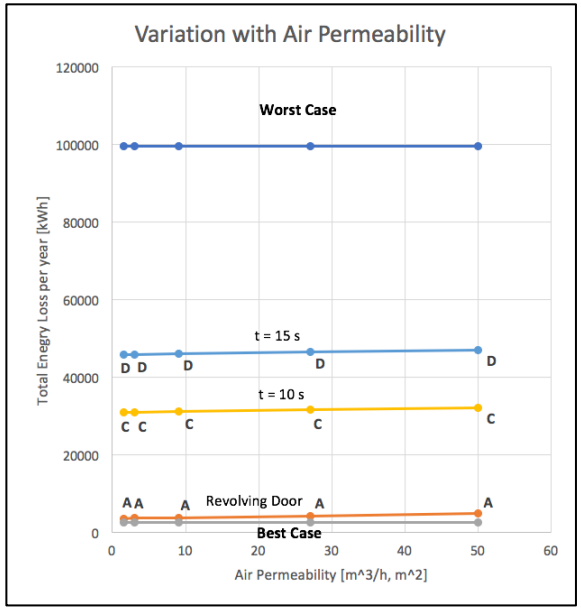
Location: Belgium
A = 3 x 2,5 m
N = 150.000 cycles per year

Climate Class CFd
Size Class S4
Traffic Class T3

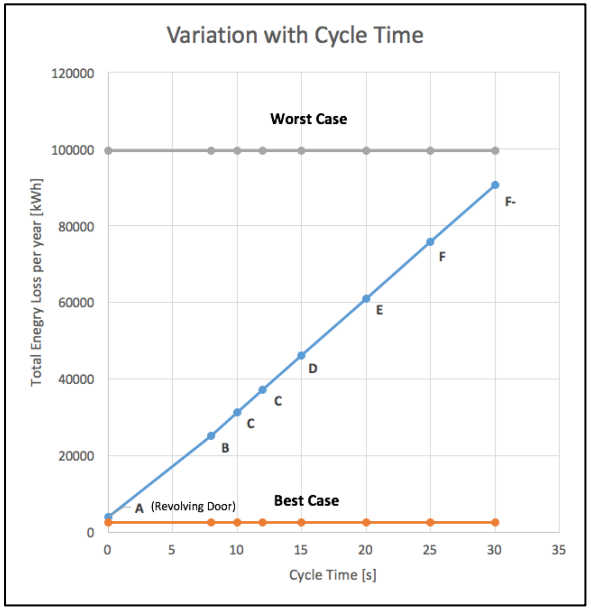
Weight = 80 kg
Power = 90 W
Stand-by Power = 15 W



L = 9 m³/h m² (100 Pa)
t = 15 s, 10 s, 0 s (revolving door)



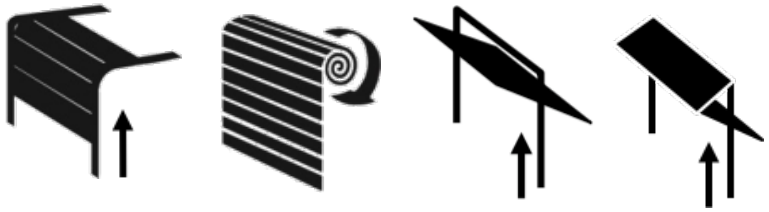
U = 3 W/m² K
t = 15 s, 10 s, 0 s (revolving door)



U = 3 W/m² K
L = 9 m³/h m² (100 Pa)

Case 5

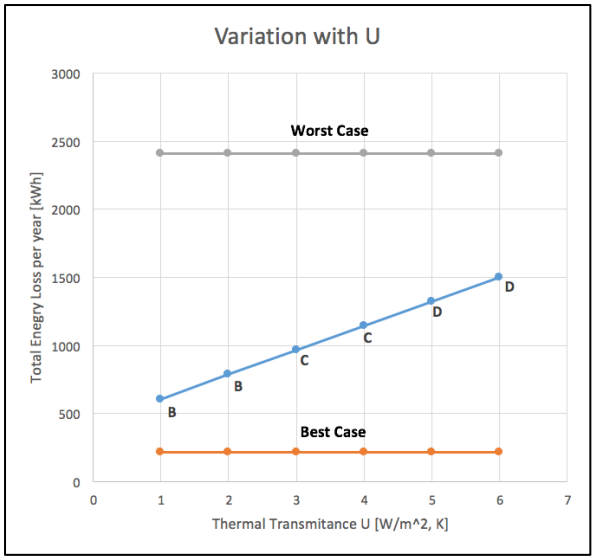
RESIDENTIAL GARAGE DOOR

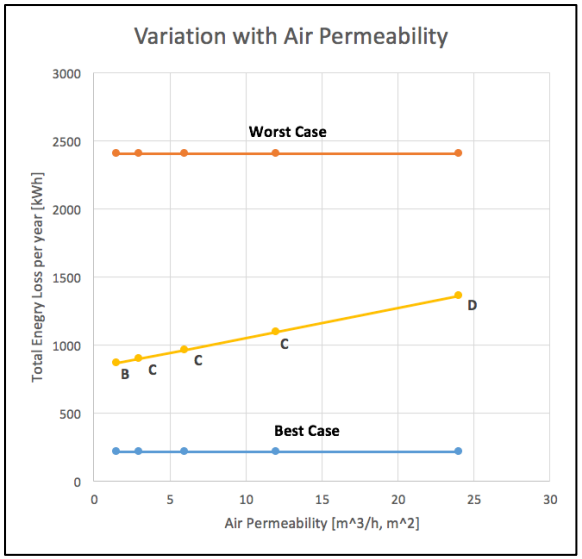


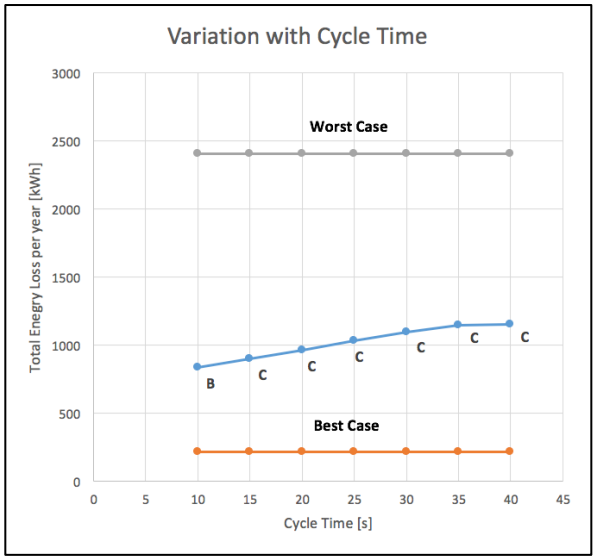
Location: Belgium
A = 2,5 x 2,5 m
N = 1.500 cycles per year

Climate Class CFd
Size Class S3
Traffic Class T1

Weight = 70 kg
Power = 80 W
Stand-by Power = 5 W







L = 6 $m^3/h\ m^2$ (50 Pa)
t = 20 s

U = 3 W/m^2 K
t = 20 s

U = 3 W/m^2 K
L = 6 $m^3/h\ m^2$ (50 Pa)

Main Conclusions

- **Air infiltration** is by far the main factor for **medium-high traffic** industrial & pedestrian doors.
- With **low traffic**, thermal transmittance and air permeability are efficiency key factors.
- In medium & high traffic **pedestrian** doors, the **A level** label is only reachable with **revolving doors**
- **Residential garage** doors have **low traffic** by definition, so thermal transmittance and air permeability are the main efficiency factors.

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