



EDSF Energy Label
for automatic doors

CALCULATION CASES EXAMPLES FAQ Support Document

Third Edition 5.10.17
Ref. P0038-02

ENERGY
Automatic Door

10000095

Manufacturer: Efficient Doors Ltd.
Model: ESD-01
Reference: D00001

Classification acc. Traffic Class
A B C T1 T2 T3

Application: Industrial
Climate Class: Cfb

Door Type: Overhead Sectional

Size Class: S2

U-Value: 3,5 [W/m²K]

Air Permeability: 12 [m³/m²h]

Operating Power: 150 [W]

Stand-by Power: 10 [W]

Mean Cycle Speed: 4

QR Code

Classification is made under S.F. specifications. is a voluntary service as a customer service consumers to make decisions on the performance of products.



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

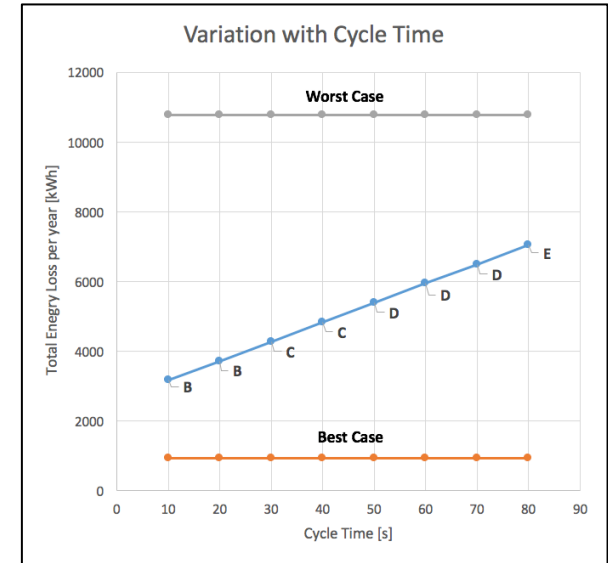
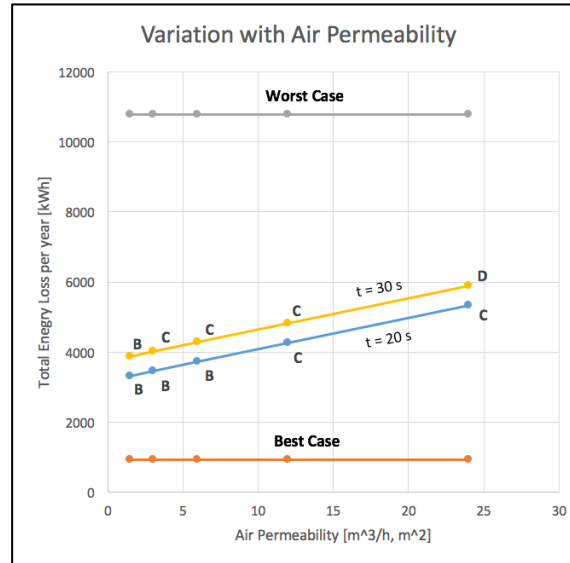
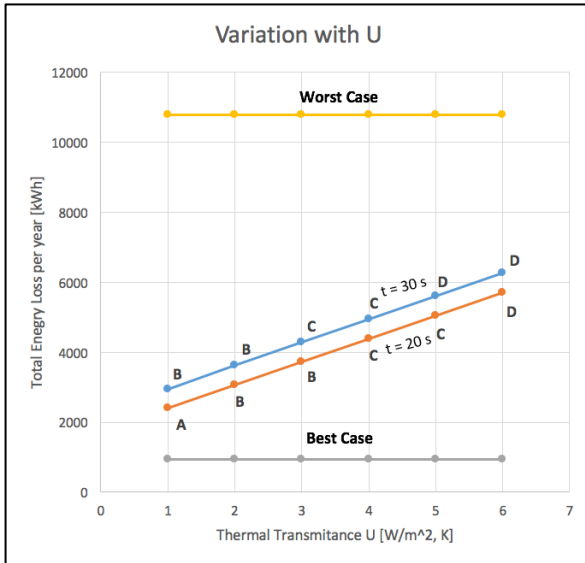
LOW TRAFFIC INDUSTRIAL DOOR



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

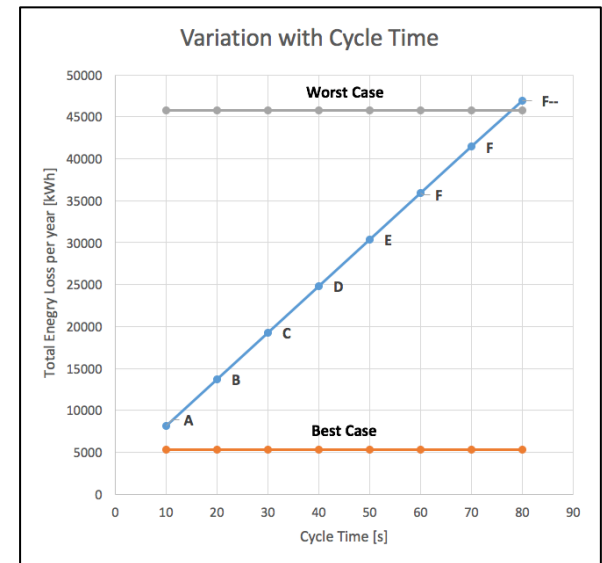
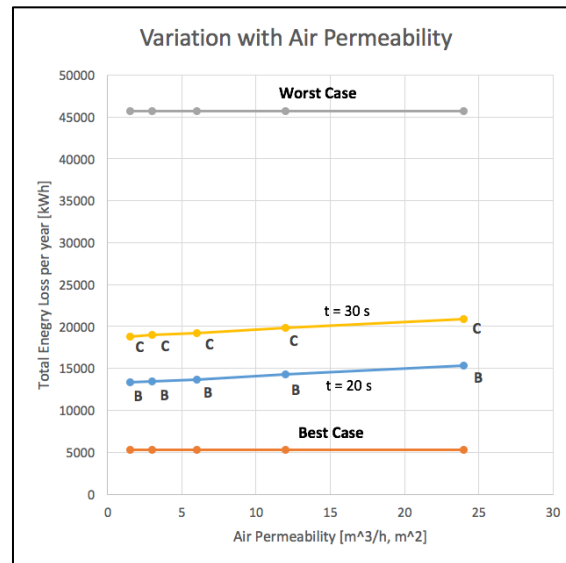
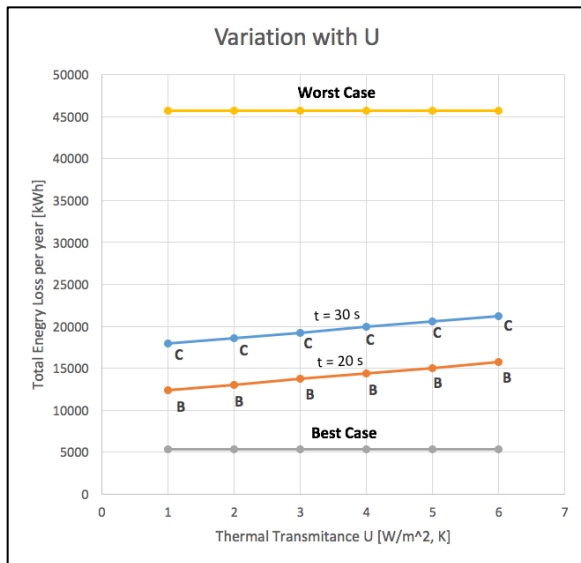
MEDIUM TRAFFIC INDUSTRIAL DOOR



Location: Belgium
 $A = 4 \times 2,5 \text{ m}$
 $N = 15.000 \text{ cycles per year}$

Climate Class CFd
 Size Class S4
 Traffic Class T2

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



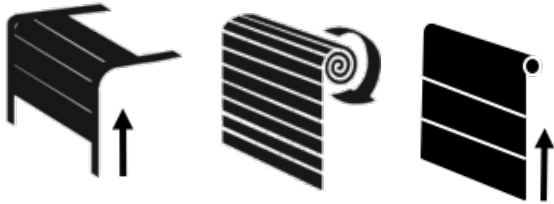
$L = 6 \text{ m}^3/\text{h m}^2 \text{ (50 Pa)}$
 $t = 30 \text{ s, } 20 \text{ s}$

$U = 3 \text{ W/m}^2 \text{ K}$
 $t = 30 \text{ s, } 20 \text{ s}$

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

Case 1C

HIGH TRAFFIC INDUSTRIAL DOOR



Location: Belgium

A = 4 x 3,5 m

N = 150.000 cycles per year

Climate Class CFd

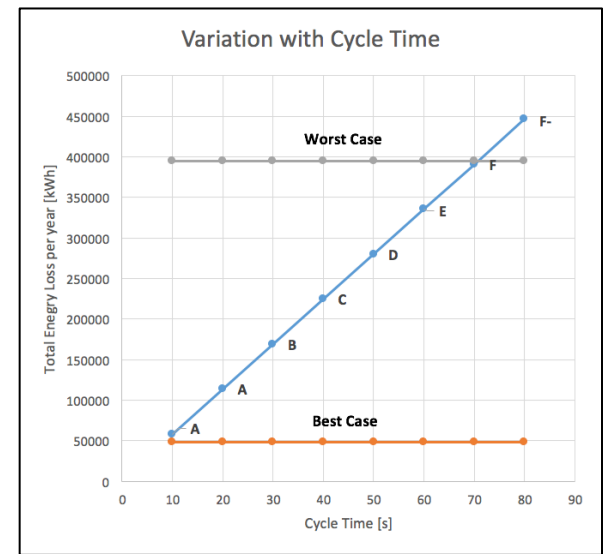
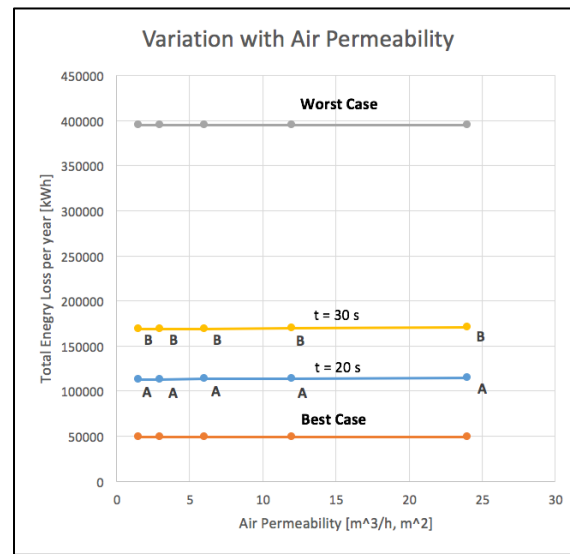
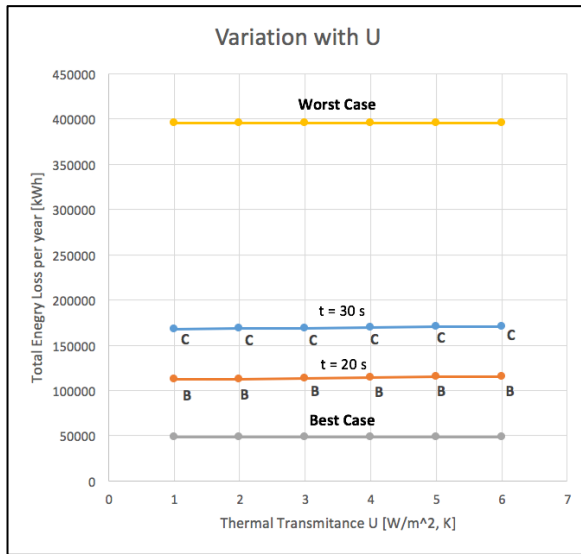
Size Class S4

Traffic Class T3

Weight = 160 kg

Power = 150 W

Stand-by Power = 10 W



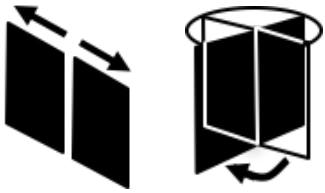
L = 6 m³/h m² (50 Pa)
t = 30 s, 20 s

U = 3 W/m² K
t = 30 s, 20 s

U = 3 W/m² K
L = 6 m³/h m² (50 Pa)

Case 3

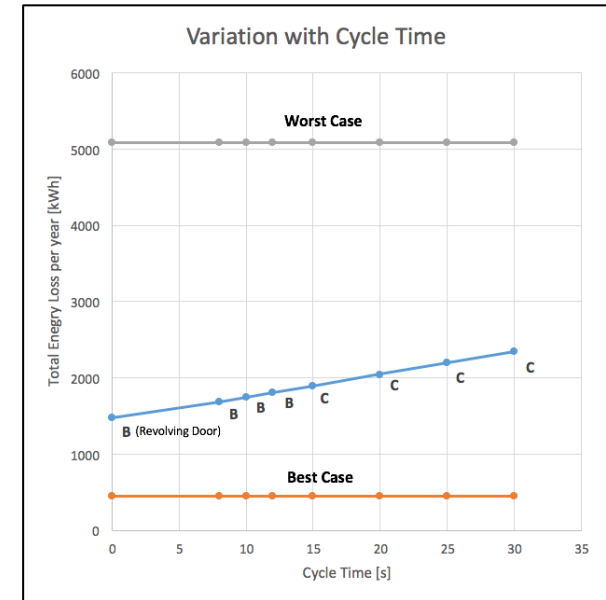
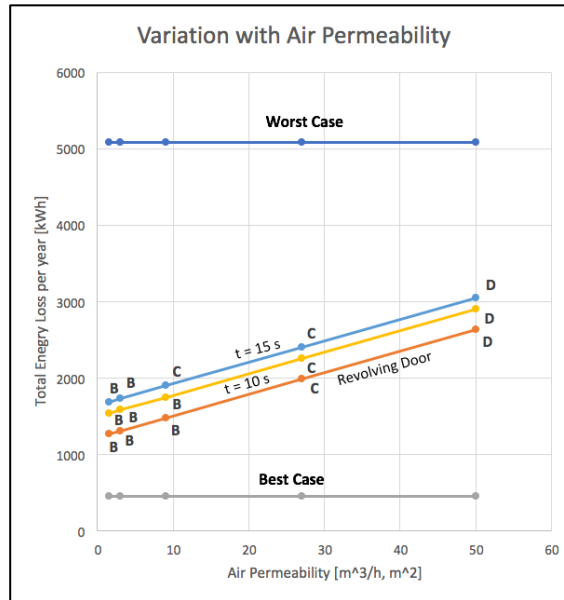
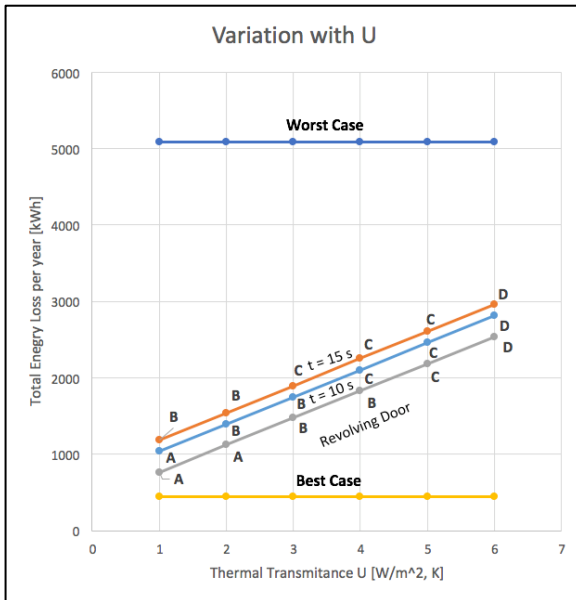
LOW TRAFFIC PEDESTRIAN DOOR



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



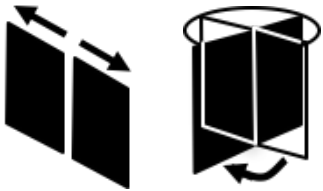
L = 9 m³/h m² (100 Pa)
 t = 15 s, 10 s, 0 s (revolving door)

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

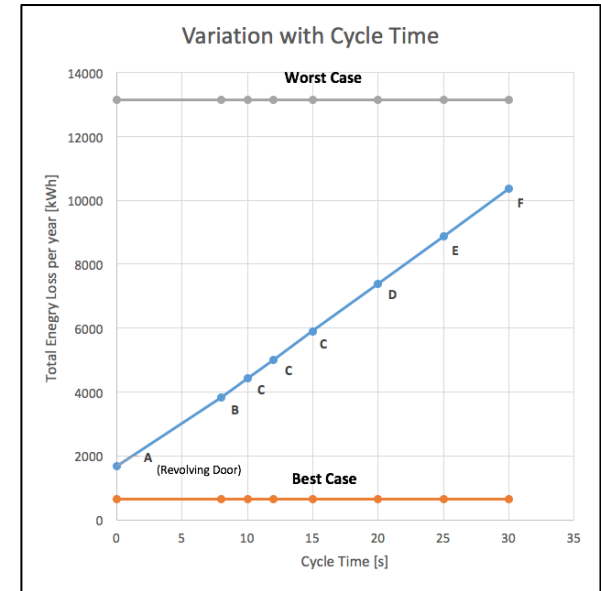
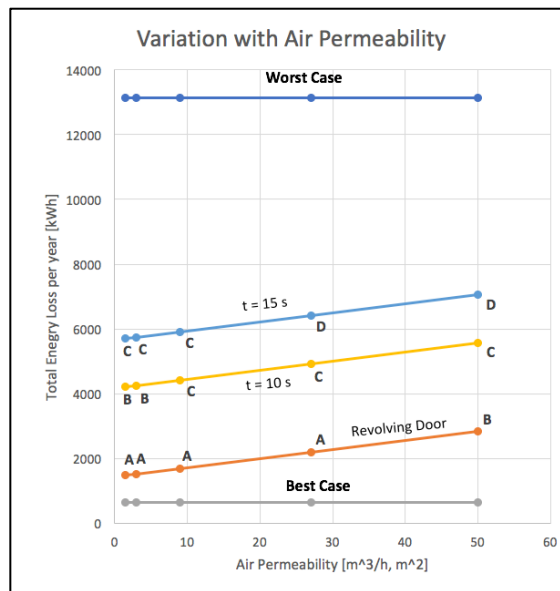
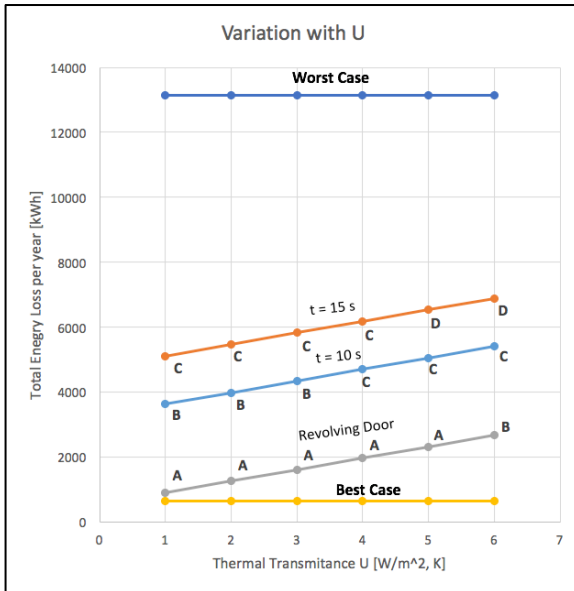
Size Class S4

Traffic Class T2

Weight = 80 kg

Power = 90 W

Stand-by Power = 15 W



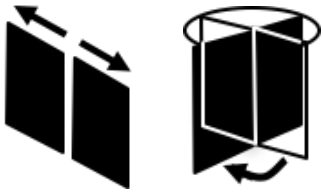
L = 9 m³/h m² (100 Pa)
t = 15 s, 10 s, 0 s (revolving door)

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

Climate Class CFd

A = 3 x 2,5 m

Size Class S4

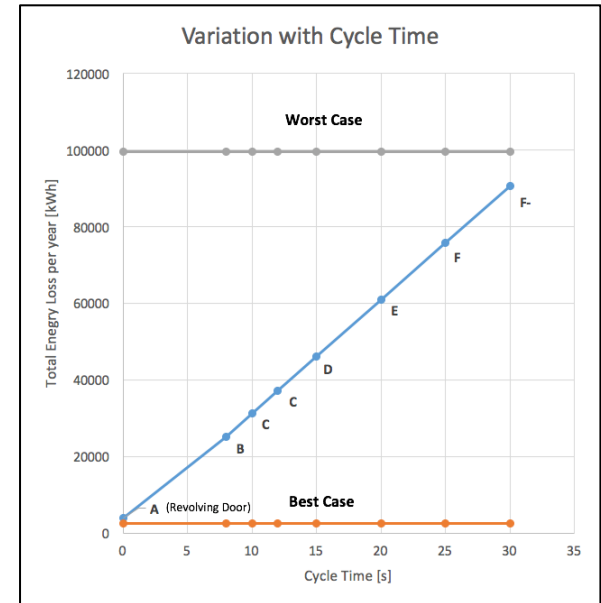
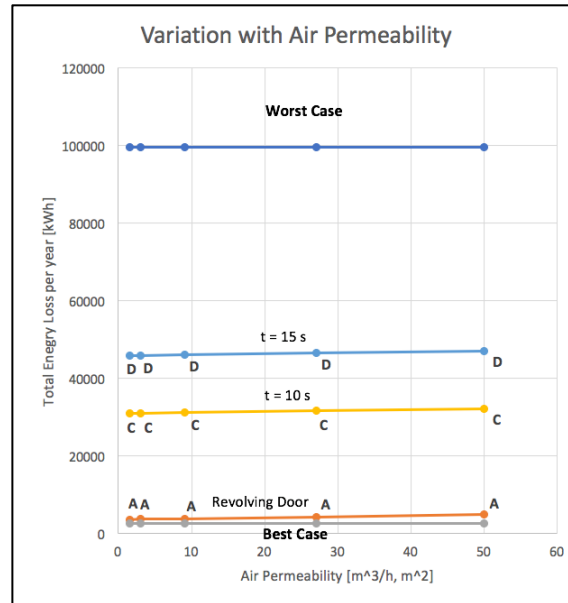
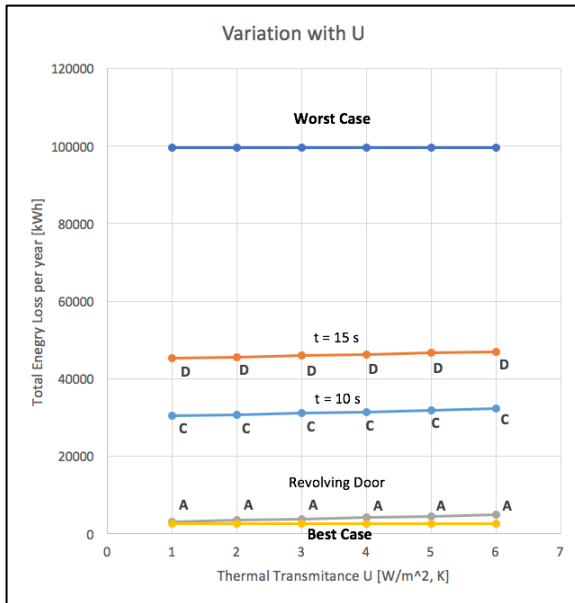
N = 150.000 cycles per year

Traffic Class T3

Weight = 80 kg

Power = 90 W

Stand-by Power = 15 W



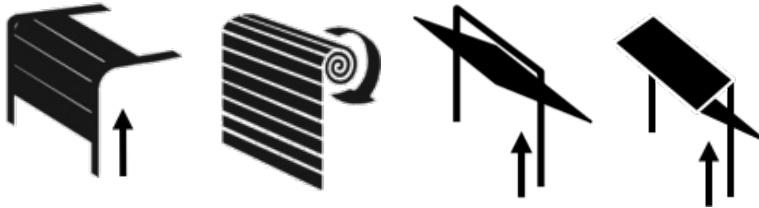
L = 9 m³/h m² (100 Pa)
t = 15 s, 10 s, 0 s (revolving door)

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

$A = 2,5 \times 2,5 \text{ m}$

$N = 1.500 \text{ cycles per year}$

Climate Class CFd

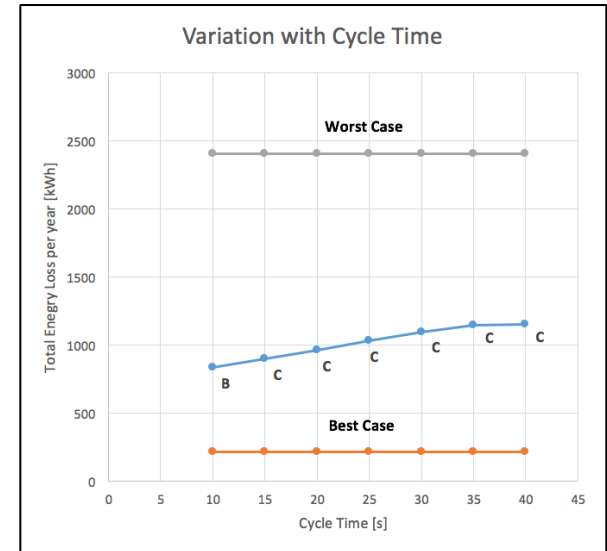
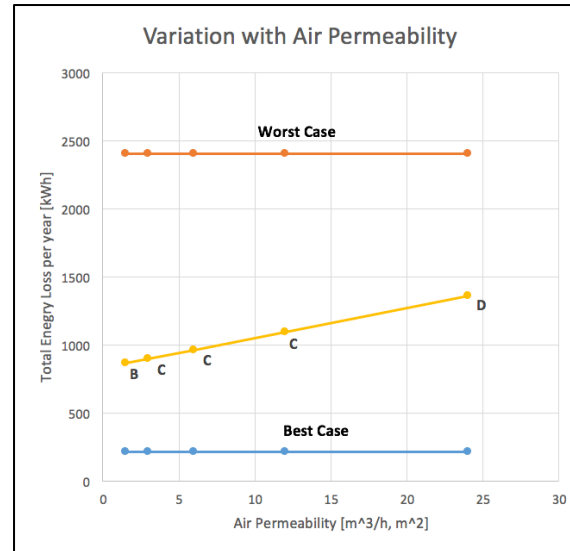
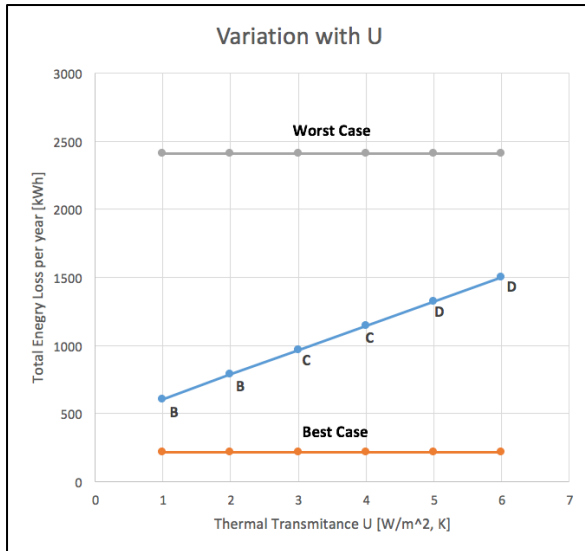
Size Class S3

Traffic Class T1

Weight = 70 kg

Power = 80 W

Stand-by Power = 5 W



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

$U = 3 \text{ W}/\text{m}^2 \text{ K}$
 $t = 20 \text{ s}$

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

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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