

# Winter thermal insulation

## Assessment of thermal characteristics according to EN and EN ISO Standards

### Determination at building components

#### $U$ -values for:

- Windows
- Insulating glass units
- Panels
- Frame profiles / Facade profiles
- Roller shutter boxes
- Transparent thermal insulations
- Doors, Gates
- Special constructions

#### $\Psi$ -values for:

- Spacer systems of insulating glass units
- Paneel edge profiles

#### Temperature factor, isothermal line und heat flow rate presentation for:

- Building components
- Frame profiles
- Roller shutter boxes
- Mounting of building components

### Methods for determination of thermal characteristics

#### Test

##### On basis of:

- EN ISO 12567-1
- EN ISO 12567-2
- EN 12412-2
- EN 12412-4
- EN 674
- ift-Guidelines for frame and facade profiles

##### As per method:

#### Hot box method (Hot-Box)



#### Dual-plate method



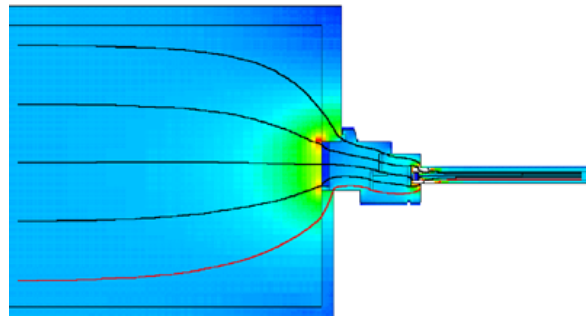
#### Calculation

##### On basis of:

- EN ISO 10211
- EN ISO 10077-1 and EN ISO 10077-2
- EN ISO 6946
- EN 673
- DIN 4108
- ift-Guidelines for frame and facade profiles

##### As per method:

#### e.g. Finite Difference Method



### Purpose

- Use of determined  $U$ -values for the CE marking of building elements
- $\Psi$ -values of special constructions

- Dew point performance e.g. of coupled window constructions
- Thermal analysis of building components and structure-shutters and blinds, as temperature factor, isothermal line, heat flow rate presentation
- Thermal performance of special constructions