

# THERMAL INSULATION

The heat transfer coefficient (U value) indicates the amount of heat lost between two rooms. The lower the figure, the better the thermal insulation.

Doors with a low  $U_d$  value help to conserve energy, and are the perfect choice for separating heated and non-heated rooms, e.g. a living area and a basement. The thermal insulation characteristics of a door set depend on the thickness of the door leaf, the materials installed in it, the frame, and the number and design of the seals.

	Door design/thickness	Heat transfer coefficient
<b>Living space/object</b>	Doors with tubular chipboard core ROE-40	$U_d = 2.00 \text{ W/(m}^2\text{K)}$
	Doors with solid chipboard core VSP-40	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	Doors with solid chipboard core Solid core-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	Energy-saving door ECO-40	$U_d = 1.00 \text{ W/(m}^2\text{K)}$
<b>Fire prevention</b>	T30(EI30)-40	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	T30(EI30)-43	$U_d = 1.70 \text{ W/(m}^2\text{K)}$
	T30(EI30)-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	T30(EI30)-65	$U_d = 1.20 \text{ W/(m}^2\text{K)}$
	T90(EI90)-65	$U_d = 1.20 \text{ W/(m}^2\text{K)}$
<b>Smoke protection</b>	RS(S200)-40	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	RS(S200)-43	$U_d = 1.70 \text{ W/(m}^2\text{K)}$
	RS(S200)-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	RS(S200)-65	$U_d = 1.20 \text{ W/(m}^2\text{K)}$
<b>Burglary prevention<sup>3</sup></b>	RC2-40 (SK27/1)	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	RC2-40 (SK32/2)	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	RC3-65	$U_d = 1.30 \text{ W/(m}^2\text{K)}$
<b>Soundproofing</b>	Class SK27/1-40	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	Class SK27/1-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	Class SK32/2-40	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	Class SK32/2-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	Class SK37/3-43	$U_d = 1.70 \text{ W/(m}^2\text{K)}$
	Class SK37/3-50	$U_d = 1.60 \text{ W/(m}^2\text{K)}$
	Class SK37/3-65	$U_d = 1.20 \text{ W/(m}^2\text{K)}$
	Class SK40/3.5-65	$U_d = 1.20 \text{ W/(m}^2\text{K)}$
	Class SK42/4-71	$U_d = 1.30 \text{ W/(m}^2\text{K)}$
<b>Damp room</b>	Doors with tubular chipboard core (ROE)	$U_d = 2.00 \text{ W/(m}^2\text{K)}$
	Doors with solid chipboard core (VSP)	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
<b>Wet room</b>	NR-40 (without wood)	$U_d = 0.72 \text{ W/(m}^2\text{K)}$
	NR-40 tubular chipboard core (ROE)	$U_d = 2.00 \text{ W/(m}^2\text{K)}$
	NR-40 solid chipboard core (ROE)	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
<b>Radiation protection</b>	ST-40 Lead equivalent 1 mm	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	ST-40 Lead equivalent 1.5 mm	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
	ST-40 Lead equivalent 2 mm	$U_d = 1.80 \text{ W/(m}^2\text{K)}$
<b>Exterior door</b>	Portal-S-56	$U_d = 1.10 \text{ W/(m}^2\text{K)}$
	Portal-S-69	$U_d = 1.00 \text{ W/(m}^2\text{K)}$

<sup>3</sup> For more information on heat transfer coefficients by construction, see "Soundproofing"