

Kälteleistungsbedarf 1

Objekt: _____ Datum: _____

Baukonstruktion / U-Werte

Bezeichnung der Schichten			Schicht-Nr.	1	2	3	4	5			
Aufbau der Baukonstruktion			Übergang aussen						Übergang innen	$\Sigma 1/U$ [m ² *K/W]	U-Wert [W/m ² *K]
B o d e n	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									
D e c k e	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									
W a n d 1	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									
W a n d 2	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									
W a n d 3	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									
W a n d 4	d	[m]									
	α	[W/m ² *K]									
	λ	[W/m*K]									
	$1/\alpha$ d/λ	[m ² *K/W]									

$$U = \frac{1}{\frac{1}{\alpha_i} + \frac{d_1}{\lambda_1} + \frac{d_2}{\lambda_2} + \frac{d_n}{\lambda_n} + \frac{1}{\alpha_a}} \left[\frac{W}{m^2 * K} \right]$$

$$\frac{1}{U} = \frac{1}{\alpha_i} + \frac{d_1}{\lambda_1} + \frac{d_2}{\lambda_2} + \frac{d_n}{\lambda_n} + \frac{1}{\alpha_a} \left[\frac{m^2 * K}{W} \right]$$

$$Q = \frac{A * U * \Delta t * \tau}{1000} \left[\frac{m^2 * W * K * s}{m^2 * K * d} = kJ/d \right]$$

Transmissionswärme

	l [m]	Fläche		U-Wert [W/m ² *K]	Temperatur		Δt [K]	Zeit [s/d]	Wärmedurchgang [kJ/d]
		b [m]	A [m ²]		ausen [°C]	innen [°C]			
Boden									
Decke									
Wand 1									
Wand 2									
Wand 3									
Wand 4									
Q Transmission									