

FTM 21 novembre 2016 DATI azzurro=dati comuni blu=dati diversi verde=ipotesi

Esercizio 1 tubo								
Dint mm	18	L m	1	lambda o h	R <sub>i</sub>	deltaT <sub>i</sub>	T <sub>i</sub>	
spessore mm	4						65	
hest W/m2K	8	Rint [m]	0.009	h <sub>int</sub>	1000000	0.0000	0.000	65.00
spe <sub>is</sub> cm	2	Rtubo [m]	0.013	lambda <sub>tul</sub>	0.4	0.1464	0.807	64.19
lambda <sub>is</sub>	0.02	Risol [m]	0.033	lambda-is	0.02	7.4169	40.870	23.32
				h <sub>est</sub>	8	0.6032	3.324	20.00
				tot		8.1664		45.00
		<b>R<sub>crit</sub> [m]</b>	<b>0.0025</b>	<b>Q' [W/m]</b>		<b>5.5</b>		

Esercizio 2 Re-Nu piana, Bi>0.1, piastrelle si raffreddano							
spessore mm	40	facce	1	(1, 2, 2.25) h	10.00	teta/A1/la1	0.085123
Largh cm	40	L <sub>biot</sub>	0.0400			exp	0.625681
Lungh cm	80	alfa	1.46E-07	<b>Biot</b>	<b>0.80</b>	Fo	3.9
lambda	0.5	T <sub>iniz</sub>	300	lambda1	0.791	tempo s	43093
ro	1900	T <sub>amb</sub>	27	A1	1.1016	tempo min	718
Cp	1800	T <sub>finale</sub>	45	teta	0.066	<b>tempo h</b>	<b>11.97</b>

Esercizio 3 Bi<<1, Re-Nu piana piastra							
spessore mm	40	Tfilm OK	102.5	lambda	0.0317	facce	2
Largh cm	40	Tfilm [°C]	100	mu	2.08E-05	L <sub>biot</sub>	0.0200
Lungh cm	80	ro <sub>aria</sub>	0.948	Pr	0.7	<b>Biot</b>	<b>0.001997</b>
T <sub>iniz</sub>	300	L <sub>Re</sub> m	0.4	Spessore	0.04	Tau	2403.87
w m/s	10	Re	182043	lambda <sub>Al</sub>	200	T <sub>infinito</sub>	20
		Nu	252	ro-Al	3000	T <sub>iniz</sub>	300
		<b>h</b>	<b>20.0</b>	Cp <sub>Al</sub>	800	T <sub>ok</sub>	45
				<b>t<sub>ok</sub> [s,m]</b>		<b>5808</b>	<b>97</b>

Esercizio 4 Irraggiamento FV grafico lastre parallele							
Lato	30	L1/D=L2/D	1	Area	eps	T °C	K
Tforno	200	F <sub>BB</sub>	0.2	Base1=2	0.09		
		F <sub>B-4L</sub>	0.8	A Lati m2	0.36	0.8	20
		F <sub>4L-B</sub>	0.2	A Forno m2	0.857197	0.8	200
		F <sub>4L-2B</sub>	0.4				
		B=base L=lato					
				F12		Q'	
				Q' est-forno	1	<b>-643.01</b>	
Abig / Asmall	1	1.587401		Q' int-forno	0.4	<b>-305.18</b>	
						<b>-948.19</b>	

Esercizio 5							
Mm	29		1	2	3	q l u	12 23
R	286.7	v m3/kg	0.430	0.136	0.14	q <sub>in</sub> J/kg	0 -125531
Cp	1003.4	P bar	2	10	6.31	delta <sub>u</sub>	125531 -125531
Cv	716.7	T °C	27	202.1	27	I <sub>in</sub>	125531 0
m [kg]	1.000	V m3	0.43	0.136	0.136	delta <sub>s</sub>	0 -329.578
	2.33	T K	300	475.1	300	delta <sub>s-amb</sub>	418.4

Esercizio 6							
m' kg/s	1	T aria K	323.0	Re	345039	deltaT1	40.0
T aria C	50	ro kg/m3	1.09	Pr	0.7	deltaT2	35.0
T pareti	10	mi	1.85E-05	Nu	556.6	deltaTml	37.44
D cm	20	D m	0.2	h	77.9	sup m2	1.72
deltaTfluido	5	A sezione	0.0314	Q'	5025	L	2.74
		w m/s	29.1				