

Chapter10_example1

Growth of and Heat-Transfer Coefficient for the Condensate Film of Example 10.1

z, ft	delta, ft	delta, in	hz, BTU/(hr.sq.ft.degree Rankine)
0.2	1.33e-04	0.0016	2962
0.4	1.58e-04	0.0019	2491
0.6	1.75e-04	0.0021	2251
0.8	1.88e-04	0.0023	2095
1.0	1.98e-04	0.0024	1981
1.2	2.08e-04	0.0025	1893
1.4	2.16e-04	0.0026	1821
1.6	2.23e-04	0.0027	1761
1.8	2.30e-04	0.0028	1710
2.0	2.36e-04	0.0028	1666

The convective coefficient at the plate end is 2221 BTU/(hr.sq.ft. degree Rankine)

The amount of steam condensed is 42.1 lbm/hr

The heat transfer rate is 3.75×10^4 BTU/hr

The Reynolds Number is 134

The film is laminar and above equations apply