

COOL A CYLINDER TUBE DENSITY = 489.C LB/CU FT
 ST3BL 1020 TUBB 5.50in O.D. x 0.304in WALLTT. xifiO.OOin LONGK. 25.54
 B/h ft F Cp- 0.148 B/lb-F DFUSIVTY ■ 0.2S3 sf/h BIOT=t274.05

WEIGHT OF ONE TUBE £74.06 LB
 INITIAL ONE TUBE TEMPERATURE 1650.OP
 WATER 90.OF SET POINT
 VIOLENT AGITATION-GREATER THAN 30 HPS 350.00 B/hr sq ft degF
 MAXIMUM DESIRED CENTER-LINE TEMPERATURE 300.OP
 CENTER-LINE TEMPERATURE AFTER COOLING 297.7F
 AVERAGE TEMPERATURE AFTER COOLING 294.6F
 TIME TO COOL CENTER TO 297.7P 11.70 EEC.
 HEAT REMOVED FROM 1 TUBE TOTAL 674.060 LB -115,300 BTD
 AVERAGE HEAT REMOVED / TIME TO COOL -41,610,876 BTU/HR

TRANSIENT COOLING DATA:

TIME SEC.	SURF INCHES								I.D. TEMP, TEMP,	S.P.	RAD.+ CONV, COEF,	HEAT REMOVED PSR UNIT TIME BTU/HR
	5.50	5.40	5.30	5.20	5.09	4.99	4.89	4.79				
START	1650	1650	1650	1650	1650	1650	1650	1650	90	0	0	0
0.10	1447	1650	1650	1649	1649	1650	1650	1650	90	350.0	-68,604,003	0
0.20	1445	1648	1648	1647	1549	1648	1648	1648	90	350.0	-38,089,312	
0.40	1401	1595	1595	1594	1595	1595	1595	1595	90	350.0	-27,302,860	
0.50	1380	1570	1570	1568	1569	1570	1570	1570	90	350.0	-21,274,178	
0.60	1359	1544	1544	1543	1544	1544	1544	1544	90	350.0	-17,384,712	
0.70	1338	1519	1519	1518	1519	1519	1519	1519	90	350.0	-14,661,870	
0.80	1317	1494	1494	1493	1494	1494	1494	1494	90	350.0	-12,647,835	
0.90	1297	1470	1470	1469	1470	1470	1470	1470	90	350.0	-11,097,365	
1.00	1277	1446	1446	1445	1446	1446	1446	1446	90	350.0	-9,866,881	
1.10	1258	1423	1423	1422	1422	1423	1423	1423	90	350.0	-8,866,668	
1.20	1238	1400	1400	1399	1399	1400	1400	1400	90	350.0	-0,037,732	
1.30	1219	1377	1377	1376	1377	1377	1377	1377	90	350.0	-7,339,663	
1.40	1200	1355	1355	1354	1354	1355	1355	1355	90	350.0	-6,743,854	
1.50	1182	1333	1333	1332	1332	1333	1333	1333	90	350.0	-6,229,471	
1.60	1163	1311	1311	1310	1311	1311	1311	1311	90	350.0	-5,780,995	
1.70	1146	1290	1290	1269	1290	1290	1290	1290	90	350.0	-5,386,606	
1.80	1128	1269	1269	1268	1269	1269	1269	1269	90	350.0	-5,037,160	
1.90	1110	1249	1249	1248	1248	1249	1249	1249	90	350.0	-4,725,459	
2.00	1093	1229	1229	1228	1228	1229	1229	1229	90	350.0	-4,445,767	
2.10	1076	1209	1209	1208	1208	1209	1209	1209	90	350.0	-4,193,459	
2.20	1060	1189	1189	1188	1189	1189	1189	1189	90	350.0	-3,964,752	
2.30	1043	1170	1170	1169	1170	1170	1170	1170	90	350.0	-3,756,534	
2.40	1027	1151	1151	1151	1151	1151	1151	1151	90	350.0	-3,566,214	
2.50	1012	1133	1133	1132	1133	1133	1133	1133	90	350.0	-3,391,622	
2.60	996	1115	1115	1114	1114	1115	1115	1115	90	350.0	-3,230,927	
2.70	981	1097	1097	1096	1097	1097	1097	1097	90	350.0	-3,082,565	
2.80	966	1079	1079	1079	1079	1079	1079	1079	90	350.0	-2,945,202	
2.90	951	1062	1062	1061	1062	1062	1062	1062	90	350.0	-2,817,690	
3.00	936	1045	1045	1044	1045	1045	1045	1045	90	350.0	-2,699,033	
3.10	922	1029	1029	1028	1028	1029	1029	1029	90	350.0	-2,588,364	
3.20	908	1012	1012	1012	1012	1012	1012	1012	90	350.0	-2,484,928	
3.30	894	996	996	995	996	996	996	996	90	350.0	-2,388,061	
1.40	980	980	980	990	980	980	980	980	90	350.0	-2,297,175	
3.50	967	965	965	964	965	965	965	965	90	350.0	-2,211,754	

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