

2. New Design:

$D =$	0.004572 m	K_I FOR VARIOUS SKIN THICKNESSES
$R_F =$	1.905 m	
$a =$	0.004 m	
$p =$	0.0586 MPa	
$a_{eff} =$	0.006286 m	
$s =$	0.0254 m	
$A_1 =$	0.935	
$A_2 =$	0.000344 m	
$A_3 =$	0.000472 m	

t_s M	σ_m MPa	P MN	σ_b MPa	σ_p MPa	a_{eff}/s	$\bar{\beta}$	K_I MPa√m
0.0005	208.7537	0.001951	210.7631	153.607	0.24748	1.61956	47.51091
0.00052	200.7247	0.001876	194.8623	142.0183	0.24748	1.602829	45.21162
0.00054	193.2905	0.001806	180.6954	131.6933	0.24748	1.587337	43.11632
0.00056	186.3872	0.001742	168.0191	122.4546	0.24748	1.572951	41.19966
0.00058	179.9601	0.001682	156.6313	114.155	0.24748	1.559558	39.44027
0.0006	173.9614	0.001626	146.3633	106.6715	0.24748	1.547058	37.82001
0.00062	168.3498	0.001573	137.0728	99.9005	0.24748	1.535364	36.32335
0.00064	163.0888	0.001524	128.6396	93.75428	0.24748	1.524401	34.93699
0.00066	158.1468	0.001478	120.9614	88.15829	0.24748	1.514102	33.64942
0.00068	153.4954	0.001434	113.9506	83.04877	0.24748	1.504409	32.45065
0.0007	149.1098	0.001393	107.5322	78.37092	0.24748	1.49527	31.33199
0.00072	144.9679	0.001355	101.6412	74.07745	0.24748	1.486639	30.28583
0.00074	141.0498	0.001318	96.22129	70.12738	0.24748	1.478475	29.30545
0.00076	137.338	0.001283	91.22364	66.48503	0.24748	1.47074	28.38498
0.00078	133.8165	0.001251	86.60548	63.11925	0.24748	1.463401	27.51916
0.0008	130.4711	0.001219	82.32934	60.00274	0.24748	1.45643	26.70336
0.00082	127.2888	0.00119	78.36225	57.11147	0.24748	1.449799	25.93344
0.00084	124.2582	0.001161	74.67514	54.42425	0.24748	1.443483	25.2057
0.00086	121.3684	0.001134	71.24226	51.92233	0.24748	1.437461	24.51681
0.00088	118.6101	0.001108	68.04077	49.58904	0.24748	1.431713	23.86381
0.0009	115.9743	0.001084	65.05034	47.40957	0.24748	1.426221	23.24398
0.00092	113.4531	0.00106	62.25281	45.37069	0.24748	1.420967	22.65492
0.00094	111.0392	0.001038	59.63193	43.46056	0.24748	1.415937	22.0944
0.00096	108.7259	0.001016	57.17315	41.66857	0.24748	1.411116	21.56045
0.00098	106.507	0.000995	54.86337	39.98516	0.24748	1.406492	21.05123
0.001	104.3769	0.000975	52.69078	38.40175	0.24748	1.402053	20.5651
0.00102	102.3303	0.000956	50.64473	36.91057	0.24748	1.397788	20.10053
0.00104	100.3624	0.000938	48.71558	35.50458	0.24748	1.393688	19.65615
0.00106	98.46873	0.00092	46.8946	34.17742	0.24748	1.389742	19.23067
0.00108	96.64524	0.000903	45.17385	32.92331	0.24748	1.385942	18.82294
0.0011	94.88805	0.000887	43.5461	31.73699	0.24748	1.38228	18.43188
0.00112	93.19362	0.000871	42.00476	30.61364	0.24748	1.378749	18.0565
0.00114	91.55864	0.000856	40.54384	29.5489	0.24748	1.375342	17.69588

0.00116	89.98005	0.000841	39.15783	28.53876	0.24748	1.372052	17.34918
0.00118	88.45496	0.000827	37.84169	27.57954	0.24748	1.368874	17.01562
0.0012	86.98071	0.000813	36.59082	26.66788	0.24748	1.365802	16.69448
0.00122	85.5548	0.0008	35.40095	25.80069	0.24748	1.362831	16.38507
0.00124	84.17488	0.000787	34.26819	24.97512	0.24748	1.359955	16.08678
0.00126	82.83877	0.000774	33.18895	24.18856	0.24748	1.357171	15.79903
0.00128	81.54442	0.000762	32.1599	23.43857	0.24748	1.354474	15.52126
0.0013	80.28989	0.00075	31.17797	22.72293	0.24748	1.351859	15.25297
0.00132	79.07338	0.000739	30.24034	22.03957	0.24748	1.349324	14.9937
0.00134	77.89318	0.000728	29.34438	21.38658	0.24748	1.346865	14.74299
0.00136	76.74769	0.000717	28.48766	20.76219	0.24748	1.344478	14.50044
0.00138	75.6354	0.000707	27.66791	20.16475	0.24748	1.34216	14.26565
0.0014	74.5549	0.000697	26.88305	19.59273	0.24748	1.339908	14.03826
0.00142	73.50483	0.000687	26.13111	19.04471	0.24748	1.33772	13.81794
0.00144	72.48393	0.000677	25.41029	18.51936	0.24748	1.335593	13.60435
0.00146	71.491	0.000668	24.71889	18.01546	0.24748	1.333524	13.39721
0.00148	70.5249	0.000659	24.05532	17.53184	0.24748	1.331511	13.19621
0.0015	69.58457	0.00065	23.41812	17.06745	0.24748	1.329551	13.0011
0.00152	68.66898	0.000642	22.80591	16.62126	0.24748	1.327643	12.81162
0.00154	67.77718	0.000633	22.2174	16.19234	0.24748	1.325785	12.62754
0.00156	66.90824	0.000625	21.65137	15.77981	0.24748	1.323974	12.44862
0.00158	66.0613	0.000617	21.1067	15.38285	0.24748	1.322209	12.27466
0.0016	65.23553	0.00061	20.58233	15.00068	0.24748	1.320488	12.10545
0.00162	64.43016	0.000602	20.07727	14.63258	0.24748	1.31881	11.9408
0.00164	63.64442	0.000595	19.59056	14.27787	0.24748	1.317173	11.78054
0.00166	62.87762	0.000588	19.12134	13.93589	0.24748	1.315575	11.62449
0.00168	62.12908	0.000581	18.66878	13.60606	0.24748	1.314015	11.47248
0.0017	61.39815	0.000574	18.2321	13.2878	0.24748	1.312492	11.32437
0.00172	60.68422	0.000567	17.81057	12.98058	0.24748	1.311004	11.18
0.00174	59.9867	0.000561	17.40348	12.68389	0.24748	1.30955	11.03924
0.00176	59.30503	0.000554	17.01019	12.39726	0.24748	1.30813	10.90196
0.00178	58.63868	0.000548	16.63009	12.12023	0.24748	1.306741	10.76802
0.0018	57.98714	0.000542	16.26259	11.85239	0.24748	1.305384	10.63731
0.00182	57.34992	0.000536	15.90713	11.59333	0.24748	1.304056	10.50972
0.00184	56.72655	0.00053	15.5632	11.34267	0.24748	1.302757	10.38513
0.00186	56.11659	0.000524	15.23031	11.10006	0.24748	1.301486	10.26344
0.00188	55.5196	0.000519	14.90798	10.86514	0.24748	1.300242	10.14454
0.0019	54.93519	0.000513	14.59578	10.6376	0.24748	1.299024	10.02836
0.00192	54.36295	0.000508	14.29329	10.41714	0.24748	1.297831	9.914786
0.00194	53.8025	0.000503	14.0001	10.20346	0.24748	1.296663	9.803742
0.00196	53.2535	0.000498	13.71584	9.996291	0.24748	1.295519	9.695142
0.00198	52.71558	0.000493	13.44015	9.795366	0.24748	1.294398	9.588907
0.002	52.18843	0.000488	13.17269	9.600438	0.24748	1.2933	9.484962
0.00202	51.67171	0.000483	12.91314	9.411271	0.24748	1.292223	9.383232
0.00204	51.16513	0.000478	12.66118	9.227641	0.24748	1.291167	9.28365
0.00206	50.66838	0.000473	12.41653	9.049334	0.24748	1.290132	9.186147
0.00208	50.18118	0.000469	12.1789	8.876145	0.24748	1.289117	9.090659
0.0021	49.70326	0.000464	11.94802	8.70788	0.24748	1.288121	8.997125
0.00212	49.23437	0.00046	11.72365	8.544356	0.24748	1.287144	8.905486
0.00214	48.77423	0.000456	11.50554	8.385394	0.24748	1.286185	8.815685

0.00216	48.32262	0.000452	11.29346	8.230828	0.24748	1.285244	8.727668
0.00218	47.87929	0.000447	11.08719	8.080497	0.24748	1.28432	8.641381
0.0022	47.44403	0.000443	10.88652	7.934246	0.24748	1.283413	8.556776
0.00222	47.0166	0.000439	10.69125	7.791931	0.24748	1.282523	8.473803
0.00224	46.59681	0.000435	10.50119	7.65341	0.24748	1.281648	8.392416
0.00226	46.18445	0.000432	10.31615	7.518551	0.24748	1.280788	8.31257
0.00228	45.77932	0.000428	10.13596	7.387225	0.24748	1.279944	8.234221
0.0023	45.38124	0.000424	9.960449	7.25931	0.24748	1.279115	8.157329
0.00232	44.99002	0.00042	9.789457	7.134689	0.24748	1.278299	8.081853
0.00234	44.60549	0.000417	9.622831	7.01325	0.24748	1.277498	8.007754
0.00236	44.22748	0.000413	9.460424	6.894885	0.24748	1.27671	7.934996
0.00238	43.85582	0.00041	9.302093	6.779492	0.24748	1.275936	7.863543
0.0024	43.49036	0.000406	9.147704	6.666971	0.24748	1.275174	7.793359
0.00242	43.13093	0.000403	8.997127	6.557228	0.24748	1.274425	7.724411
0.00244	42.7774	0.0004	8.850238	6.450173	0.24748	1.273689	7.656667
0.00246	42.42962	0.000397	8.706917	6.345719	0.24748	1.272964	7.590097
0.00248	42.08744	0.000393	8.567049	6.243781	0.24748	1.272251	7.524669
0.0025	41.75074	0.00039	8.430524	6.14428	0.24748	1.271549	7.460355