

Tube O.D.		Tube Gauge			Tube I.D.		Min. Expansion		Max. Expansion		Tube Sheet Thickness				Mandrel	Mandrel Square	
											1/2" to 1 1/2"		1 1/4" to 2 1/4"				
											12.7 to 38.1 mm		31.7 to 57.1 mm			Tool No.	Roll No.
3/4	19	13	0.095	2.41	0.560	14.22	0.550	13.97	0.615	15.62	821-5	R-5-5	822-5	R-5-A-5	M-822-5	3/8	9.5
		14	0.083	2.11	0.584	14.83	0.574	14.58	0.639	16.23	823-5	R-6-5	824-5	R-6-A-5	M-824-5	3/8	9.5
		15	0.072	1.83	0.606	15.39	0.590	14.99	0.661	16.79	825-5	R-7-5	826-5	R-7-A-5	M-826-5	3/8	9.5
		16	0.065	1.65	0.620	15.75	0.605	15.37	0.685	17.40	827-5	R-7-5	828-5	R-7-A-5	M-13	3/8	9.5
		17	0.058	1.47	0.634	16.10	0.619	15.72	0.699	17.75	829-5	R-7-5	830-5	R-7-A-5	M-830-5	3/8	9.5
		18	0.049	1.24	0.652	16.56	0.619	15.72	0.699	17.75	829-5	R-7-5	830-5	R-7-A-5	M-830-5	3/8	9.5
		19	0.042	1.07	0.666	16.92	0.642	16.31	0.722	18.34	831-5	R-9-5	832-5	R-9-A-5	M-13	3/8	9.5
		20	0.035	0.89	0.680	17.27	0.642	16.31	0.722	18.34	831-5	R-9-5	832-5	R-9-A-5	M-13	3/8	9.5
		21	0.032	0.81	0.686	17.42	0.624	16.31	0.722	18.34	831-5	R-9-5	832-5	R-9-A-5	M-13	3/8	9.5
		22	0.028	0.71	0.694	17.63	0.624	16.31	0.722	18.34	831-5	R-9-5	832-5	R-9-A-5	M-13	3/8	9.5