PRODUC:	TRANGE (C	ASING)																	
TRODUC	110410E (C	Adil (d)	Outside	Outside Diameter Wall Thickness			Inside [Diameter	Drift D	iameter	Type of End Finish								
Size	Nominal Weight	Plain End	OD	OD	t	t	ID	ID	in	mm	H40	J55	M65	L80	N80-1	C90	C110	P110	(
	(Threaded & Coupled)	Weight	in	mm	in	mm	in	mm				K55		R95	N80-Q	T95			
	lb/ft	lb/ft							•										
4/1/2002	9.5	9.41	4.5	114.3	0.205	5.21	4.09	103.89	3.965	100.71	PS	PS	PS						
4/1/2002	10.5	10.24	4.5	114.3	0.224	5.69	4.052	102.92	3.927	99.75		PSB	PSB						
4/1/2002	11.6	11.36	4.5	114.3	0.25	6.35	4	101.6	3.875	98.43		PSLB	PLB	PLB	PLB	PLB	Р	PLB	Г
4/1/2002	13.5	13.05	4.5	114.3	0.29	7.37	3.92	99.57	3.795	96.39			PLB	PLB	PLB	PLB	Р	PLB	
4/1/2002	15.1	15	4.5	114.3	0.337	8.56	3.826	97.18	3.701	94.01								PLB	L
5	11.5	11.24	5	127	0.22	5.59	4.56	115.82	4.435	112.65		PS	PS						
5	13	12.84	5	127	0.253	6.43	4.494	114.15	4.369	110.97		PSLB	PSLB						
5	15	14.88	5	127	0.296	7.52	4.408	111.96	4.283	108.79		PSLB	PLB	PLB	PLB	PLB	Р	PLB	
5	18	17.95	5	127	0.362	9.19	4.276	108.61	4.151	105.44			PLB	PLB	PLB	PLB	Р	PLB	Г
5	21.4	21.32	5	127	0.437	11.1	4.126	104.8	4.001	101.63			PLB	PLB	PLB	PLB	Р	PLB	Г
5	23.2	23.11	5	127	0.478	12.14	4.044	102.72	3.919	99.54				PLB	PLB	PLB	Р	PLB	Г
5	24.1	24.05	5	127	0.5	12.7	4	101.6	3.875	98.43				PLB	PLB	PLB	Р	PLB	
5/1/2002	14	13.71	5.5	139.7	0.244	6.2	5.012	127.3	4.887	124.13	PS	PS	PS						
5/1/2002	15.5	15.36	5.5	139.7	0.275	6.99	4.95	125.73	4.825	122.56		PSLB	PSLB						
5/1/2002	17	16.89	5.5	139.7	0.304	7.72	4.892	124.26	4.767	121.08		PSLB	PLB	PLB	PLB	PLB	Р	PLB	
5/1/2002	20	19.83	5.5	139.7	0.361	9.17	4.778	121.36	4.653	118.19			PLB	PLB	PLB	PLB	Р	PLB	
5/1/2002	23	22.56	5.5	139.7	0.415	10.54	4.67	118.62	4.545	115.44			PLB	PLB	PLB	PLB	Р	PLB	
5/1/2002	26.8	26.72	5.5	139.7	0.5	12.7	4.5	114.3	4.375	111.13						Р	Р		
5/1/2002	29.7	29.67	5.5	139.7	0.562	14.27	4.376	111.15	4.251	107.98						Р	Р		
5/1/2002	32.6	32.57	5.5	139.7	0.625	15.88	4.25	107.95	4.125	104.78						Р	Р		
5/1/2002	35.3	35.35	5.5	139.7	0.687	17.45	4.126	104.8	4.001	101.63						Р	Р		
5/1/2002	38	38.08	5.5	139.7	0.75	19.05	4	101.6	3.875	98.43						Р	Р		
5/1/2002	40.5	40.69	5.5	139.7	0.812	20.62	3.876	98.45	3.751	95.28						Р	Р		
5/1/2002	43.1	43.26	5.5	139.7	0.875	22.23	3.75	95.25	3.625	92.08						Р	Р		
6/5/2008	20	19.51	6.625	168.28	0.288	7.32	6.049	153.64	5.924	150.47	PS	PSLB	PSLB						
6/5/2008	24	23.6	6.625	168.28	0.352	8.94	5.921	150.39	5.796	147.22		PSLB	PLB	PLB	PLB	PLB	Р	PLB	
6/5/2008	28	27.67	6.625	168.28	0.417	10.59	5.791	147.09	5.666	143.92			PLB	PLB	PLB	PLB	Р	PLB	
6/5/2008	32	31.23	6.625	168.28	0.475	12.07	5.675	144.15	5.55	140.97				PLB	PLB	PLB	Р	PLB	
7	17	16.72	7	177.8	0.231	5.87	6.538	166.07	6.413	162.89	PS								
7	20	19.56	7	177.8	0.272	6.91	6.456	163.98	6.331	160.81	PS	PS	PS						

•	23.00 (Spl Drift)	22.65	7	177.8	0.317	8.05	6.366	161.7	6.25	158.75		PSLB	PLB	PLB	PLB	PLB	Р		
7	23	22.65	7	177.8	0.317	8.05	6.366	161.7	6.241	158.52		PSLB	PLB	PLB	PLB	PLB	Р		
7	26	25.69	7	177.8	0.362	9.19	6.276	159.41	6.151	156.24		PSLB	PLB	PLB	PLB	PLB	Р	PLB	
7	29	28.75	7	177.8	0.408	10.36	6.184	157.07	6.059	153.9			PLB	PLB	PLB	PLB	Р	PLB	
7	32.00 (Spl Drift)	31.7	7	177.8	0.453	11.51	6.094	154.79	6	152.4			PLB	PLB	PLB	PLB	Р	PLB	
7	32	31.7	7	177.8	0.453	11.51	6.094	154.79	5.969	151.61			PLB	PLB	PLB	PLB	Р	PLB	
7	35	34.61	7	177.8	0.498	12.65	6.004	152.5	5.879	149.33			PLB	PLB	PLB	Р	Р	PLB	PLB
7	38	37.29	7	177.8	0.54	13.72	5.92	150.37	5.795	147.19			PLB	PLB	PLB	Р	Р	PLB	PLB
7	42.7	42.59	7	177.8	0.625	15.88	5.75	146.05	5.625	142.88						Р	Р		
7	46.4	46.36	7	177.8	0.687	17.45	5.625	142.88	5.5	139.7						Р	Р		
7	50.1	50.11	7	177.8	0.75	19.05	5.5	139.7	5.375	136.53						Р	Р		
7	53.6	53.71	7	177.8	0.812	20.62	5.376	136.55	5.251	133.38						Р	Р		
7	57.1	57.29	7	177.8	0.875	22.23	5.25	133.35	5.125	130.18						Р	Р		
7/5/2008	24	23.49	7.625	193.68	0.3	7.62	7.025	178.44	6.9	175.26	PS								
7/5/2008	26.4	25.59	7.625	193.68	0.328	8.33	6.969	177.01	6.844	173.84		PSLB	PSLB	PLB	PLB	PLB	Р		
7/5/2008	29.7	29.06	7.625	193.68	0.375	9.53	6.875	174.63	6.75	171.45			PLB	PLB	PLB	PLB	Р	PLB	
7/5/2008	33.7	33.07	7.625	193.68	0.43	10.92	6.765	171.83	6.64	168.66			PLB	PLB	PLB	PLB	Р	PLB	
7/5/2008	39	38.08	7.625	193.68	0.5	12.7	6.625	168.28	6.5	165.1				PLB	PLB	PLB	Р	PLB	PLB
7/5/2008	42.8	42.43	7.625	193.68	0.562	14.27	6.501	165.13	6.376	161.95				PLB	PLB	PLB	Р	PLB	PLB
7/5/2008	45.3	44.71	7.625	193.68	0.595	15.11	6.435	163.45	6.31	160.27				PLB	PLB	PLB	Р	PLB	PLB
7/5/2008	47.1	46.77	7.625	193.68	0.625	15.88	6.375	161.93	6.25	158.75				PLB	PLB	PLB	Р	PLB	PLB
7/5/2008	51.2	50.95	7.625	193.68	0.687	17.45	6.251	158.78	6.126	155.6						Р	Р		
7/5/2008	55.3	55.12	7.625	193.68	0.75	19.05	6.125	155.58	6	152.4						Р	Р		
7/2/2004	46 10 (Cpl	AE E1	7 75	100 05	0.505	15 11	6 56	166 62	6 E	16E 1				D	D	D	В	В	D
	46.10 (Spl Drift)		7.75	196.85	0.595	15.11	6.56	166.62	6.5	165.1				Р	Р	Р	P	Р	Р
	46.10 (Spl Drift) 46.1	45.51 45.51	7.75 7.75	196.85 196.85	0.595 0.595	15.11 15.11	6.56 6.56	166.62	6.5 6.435	165.1 163.45				Р Р	P	P	P	P	P
7/3/2004	Drift)											PS	PS	P		·		·	
7/3/2004 8/5/2008	Drift) 46.1	45.51	7.75	196.85	0.595	15.11	6.56	166.62	6.435	163.45		PS	PS PS	P P		·		·	
7/3/2004 8/5/2008 8/5/2008	Drift) 46.1	45.51 23.6	7.75 8.625	196.85 219.08	0.595	15.11 6.71	6.56	-205.66	6.435 7.972	163.45 202.49	PS	PS PSLB		P		·		·	
7/3/2004 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl	23.6 27.04	7.75 8.625 8.625	196.85 219.08 219.08	0.595 0.264 0.304	15.11 6.71 7.72	6.56 -8.097 8.017	-205.66 203.63	6.435 7.972 7.892	163.45 202.49 200.46	PS PS		PS	P		·		·	
7/3/2004 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl	23.6 27.04 31.13	7.75 8.625 8.625 8.625	219.08 219.08 219.08	0.595 0.264 0.304 0.352	15.11 6.71 7.72 8.94	6.56 -8.097 8.017 7.921	-205.66 203.63 201.19	7.972 7.892 7.875	202.49 200.46 200.03		PSLB	PS PSLB	P P		·		·	
7/3/2004 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl Drift)	23.6 27.04 31.13 35.13	7.75 8.625 8.625 8.625 8.625	219.08 219.08 219.08 219.08	0.595 0.264 0.304 0.352	15.11 6.71 7.72 8.94 8.94	6.56 -8.097 8.017 7.921 7.921	-205.66 203.63 201.19	7.972 7.892 7.875 7.796	202.49 200.46 200.03		PSLB PSLB	PSLB PSLB		P	P	P	·	
7/3/2004 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl Drift) 32 36 40.00 (Spl	23.6 27.04 31.13 31.13 35.13	7.75 8.625 8.625 8.625 8.625 8.625	219.08 219.08 219.08 219.08 219.08	0.595 0.264 0.304 0.352 0.352 0.4	15.11 6.71 7.72 8.94 8.94 10.16	6.56 -8.097 8.017 7.921 7.921 7.825	-205.66 203.63 201.19 201.19 198.76	7.972 7.892 7.875 7.796 7.7	202.49 200.46 200.03 198.02 195.58		PSLB PSLB	PSLB PSLB PSLB	PLB	P	P	P	P	
7/3/2004 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl Drift) 32 36 40.00 (Spl Drift)	23.6 27.04 31.13 31.13 35.13 39.33	7.75 8.625 8.625 8.625 8.625 8.625 8.625	219.08 219.08 219.08 219.08 219.08 219.08	0.595 0.264 0.304 0.352 0.352 0.4 0.45	15.11 6.71 7.72 8.94 8.94 10.16 11.43	-8.097 8.017 7.921 7.921 7.825 7.725	-205.66 203.63 201.19 201.19 198.76 196.22	7.972 7.892 7.875 7.796 7.7 7.625	202.49 200.46 200.03 198.02 195.58 193.68		PSLB PSLB	PSLB PSLB PSLB PSLB	PLB PLB	P PLB	P PLB	P P P	PLB	
7/3/2004 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl Drift) 32 36 40.00 (Spl Drift) 40	23.6 27.04 31.13 31.13 35.13 39.33	7.75 8.625 8.625 8.625 8.625 8.625 8.625 8.625	219.08 219.08 219.08 219.08 219.08 219.08 219.08	0.595 0.264 0.304 0.352 0.352 0.4 0.45	15.11 6.71 7.72 8.94 8.94 10.16 11.43	6.56 -8.097 8.017 7.921 7.921 7.825 7.725	-205.66 203.63 201.19 201.19 198.76 196.22	7.972 7.892 7.875 7.796 7.7 7.625	202.49 200.46 200.03 198.02 195.58 193.68		PSLB PSLB	PSLB PSLB PSLB PSLB	PLB PLB	P PLB PLB	P PLB PLB	P P P	P PLB	
8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008 8/5/2008	24 28 32.00 (Spl Drift) 32 36 40.00 (Spl Drift) 40 44	23.6 27.04 31.13 31.13 35.13 39.33 39.33 43.43	7.75 8.625 8.625 8.625 8.625 8.625 8.625 8.625	219.08 219.08 219.08 219.08 219.08 219.08 219.08 219.08	0.595 0.264 0.304 0.352 0.352 0.4 0.45 0.45	15.11 6.71 7.72 8.94 8.94 10.16 11.43 11.43	6.56 -8.097 8.017 7.921 7.921 7.825 7.725 7.625	-205.66 203.63 201.19 201.19 198.76 196.22 193.68	7.972 7.892 7.875 7.796 7.7 7.625 7.6	202.49 200.46 200.03 198.02 195.58 193.68 193.04 190.5		PSLB PSLB	PSLB PSLB PSLB PSLB	PLB PLB PLB	PLB PLB PLB	PLB PLB PLB	P P P P	P PLB PLB	P

9/5/2008	40.00 (Spl Drift)	38.97	9.625	244.48	0.395	10.03	8.835	224.41	8.75	222.25		PSLB	PSLB	PLB	PLB	PLB	Р		
9/5/2008	40	38.97	9.625	244.48	0.395	10.03	8.835	224.41	8.679	220.45		PSLB	PSLB	PLB	PLB	PLB	Р		
9/5/2008	43.5	42.73	9.625	244.48	0.435	11.05	8.755	222.38	8.599	218.41			PLB	PLB	PLB	PLB	Р	PLB	
9/5/2008	47	46.18	9.625	244.48	0.472	11.99	8.681	220.5	8.525	216.54			PLB	PLB	PLB	PLB	Р	PLB	PLB
9/5/2008	53.50 (Spl Drift)	52.9	9.625	244.48	0.545	13.84	8.535	216.79	8.5	215.9				PLB	PLB	PLB	Р	PLB	PLB
9/5/2008	53.5	52.9	9.625	244.48	0.545	13.84	8.535	216.79	8.379	212.83				PLB	PLB	PLB	Р	PLB	PLB
9/5/2008	58.40 (Spl Drift)	57.44	9.625	244.48	0.595	15.11	8.435	214.25	8.375	212.73				PLB	PLB	PLB	Р	PLB	PLB
9/5/2008	58.4	57.44	9.625	244.48	0.595	15.11	8.435	214.25	8.279	210.29				PLB	PLB	PLB	Р	PLB	PLB
9/5/2008	59.4	58.7	9.625	244.48	0.609	15.47	8.407	213.54	8.251	209.58							Р		
9/5/2008	64.9	64.32	9.625	244.48	0.672	17.07	8.281	210.34	8.125	206.38							Р		
9/5/2008	70.3	69.76	9.625	244.48	0.734	18.64	8.157	207.19	8.001	203.23							Р		
9/5/2008	75.6	75.21	9.625	244.48	0.797	20.24	8.031	203.99	7.875	200.03									
10/3/200 4	32.75	31.23	10.75	273.05	0.279	7.09	10.192	258.88	10.036	254.91	PS								
10/3/200 4	40.5	38.91	10.75	273.05	0.35	8.89	10.05	255.27	9.894	251.31	PS	PSB	PSB						
10/3/200 4	45.50 (Spl Drift)	44.26	10.75	273.05	0.4	10.16	9.95	252.73	9.875	250.83		PSB	PSB				Р		
10/3/200 4	45.5	44.26	10.75	273.05	0.4	10.16	9.95	252.73	9.794	248.77		PSB	PSB				Р		
10/3/200 4	51	49.55	10.75	273.05	0.45	11.43	9.85	250.19	9.694	246.23		PSB	PSB	PSB	PSB	PSB	Р	PSB	
10/3/200 4	55.50 (Spl Drift)	54.26	10.75	273.05	0.45	11.43	9.76	247.9	9.625	244.48			PSB	PSB	PSB	PSB	Р	PSB	
10/3/200 4	55.5	54.26	10.75	273.05	0.495	12.57	9.76	247.9	9.604	243.94			PSB	PSB	PSB	PSB	Р	PSB	
10/3/200 4	60.7	59.26	10.75	273.05	0.545	13.84	9.66	245.36	9.504	241.4						PSB	Р	PSB	PSB
10/3/200 4	65.7	64.59	10.75	273.05	0.595	15.11	9.56	242.82	9.25	234.95						PSB	Р	PSB	PSB
10/3/200 4	73.2	72.4	10.75	273.05	0.672	17.07	9.406	238.91	9.126	231.8						Р	Р		
10/3/200 4	79.2	78.59	10.75	273.05	0.734	18.64	9.282	235.76	9	228.6						Р	Р		
10/3/200 4	85.3	84.8	10.75	273.05	0.797	20.24	9.156	232.56	9	228.6						Р	Р		
11/3/200 4	42.00 (Spl Drift)	40.64	11.75	298.45	0.333	8.46	11.084	281.53	11	279.4	PS								
11/3/200 4	42	40.64	11.75	298.45	0.333	8.46	11.084	281.53	10.928	277.57	PS								
11/3/200 4	47	45.6	11.75	298.45	0.375	9.53	11	279.4	10.844	275.44		PSB	PSB						
11/3/200 4	54	52.62	11.75	298.45	0.435	11.05	10.88	276.35	10.724	272.39		PSB	PSB						
11/3/200 4	60.00 (Spl Drift)	58.87	11.75	298.45	0.489	12.42	10.772	273.61	10.625	269.88		PSB	PSB	PSB	PSB	PSB	Р	PSB	PSB
	60	58.87	11.75	298.45	0.489	12.42	10.772	273.61	10.616	269.65		PSB	PSB	PSB	PSB	PSB	Р	PSB	PSB

11/3/200 4	65.00 (Spl Drift)	64.03	11.75	298.45	0.534	13.56	10.682	271.32	10.625	269.88				Р	Р	Р	Р	Р	Р
11/3/200 4	65	64.03	11.75	298.45	0.534	13.56	10.682	271.32	10.526	267.36				Р	Р	Р	Р	Р	Р
11/3/200 4	71	69.48	11.75	298.45	0.582	14.78	10.586	268.88	10.43	264.92				Р	Р	Р	Р	Р	Р
13-3/8	48	46.02	13.375	339.73	0.33	8.38	12.715	322.96	12.559	319	PS								
13-3/8	54.5	52.79	13.375	339.73	0.38	9.65	12.615	320.42	12.459	316.46		PSB	PSB						
13-3/8	61	59.5	13.375	339.73	0.43	10.92	12.515	317.88	12.359	313.92		PSB	PSB						
13-3/8	68	66.17	13.375	339.73	0.48	12.19	12.415	315.34	12.259	311.38		PSB	PSB	PSB	PSB	PSB	Р	PSB	
13-3/8	72.00 (Spl Drift)	70.67	13.375	339.73	0.514	13.06	12.347	313.61	12.25	311.15				PSB	PSB	PSB	Р	PSB	PSB
13-3/8	72	70.67	13.375	339.73	0.514	13.06	12.347	313.61	12.191	309.65				PSB	PSB	PSB	Р	PSB	PSB
						P=Pla	in End, S=	Short Round	l Thread, L=	Long Roun	d Thread, B	=Buttress 1	hread						
Close																			