



**CATÁLOGO DE
PRODUCTOS**

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Aceros Tubos y Perfiles S.A. de C.V. es una empresa dedicada a la comercialización y suministro de tubería de acero y perfiles estructurales. Nuestra misión es ser una empresa líder en la comercialización de acero, satisfaciendo siempre las necesidades de nuestros clientes y ofreciendo productos y servicios de alta calidad al precio más accesible.

Inventario:

Contamos con más de 2 mil toneladas de inventario disponible en nuestras instalaciones para ofrecer a nuestros clientes una entrega rápida y oportuna.

Infraestructura:

Matriz: Nave industrial 6 mil m².
Taller de Transformación 5 mil 500 m².
Oficinas: 800 m².
Sucursal Gigantes: 2 mil m².





NUESTROS PRODUCTOS:

- Tubería Estructural
- Tubería de 1" a 60"
- Tubería de Conducción
- Tubería Agrícola
- PTR
- Tubular
- Polín Montén
- Lámina Lisa Galvanizada
- Lámina Negra Lisa
- Lámina Galv. Acanalada
- Lámina Antiderrapante
- Canal (CPS)
- HSS
- Placa de planchón
- Malla Electrosoldada
- Cuadrado
- Redondo
- Torcido
- Semiflecha
- Ángulo
- Solera
- Canal (CPS)
- Viga IPR
- Viga IPS
- Varilla
- Placa cortada a la medida





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Dimensiones y Pesos Teóricos de
Tubería de Diámetros Menores.

Tubería de Diámetros Menores

Medida Nominal (in)	Diámetro Exterior		Espesor de Pared		Calibre	ASA Cédula N°	Peso Teórico	
	in	mm	pulg.	mm.			kg/m.	lb/pie.
1/2"	0.840	21.336	0.075	1.905	14	30	0.91	0.61
			0.090	2.286	13	PG*	1.07	0.72
			0.109	2.769	12	40	1.27	0.85
			0.147	3.730	-	80	1.62	1.09
3/4"	1.050	26.67	0.075	1.905	14	30	1.16	0.78
			0.095	2.413	13	PG*	1.44	0.97
			0.113	2.870	12	40	1.68	1.13
			0.154	3.912	-	80	2.20	1.48
1"	1.315	33.401	0.075	1.905	14	30	1.56	1.05
			0.104	2.642	12	PG*	2.00	1.34
			0.133	3.378	10	40	2.65	1.78
			0.179	4.550	-	80	3.24	2.18
1 1/4"	1.660	42.164	0.090	2.286	13	30	2.35	1.58
			0.110	2.794	12	PG*	2.71	1.82
			0.135	3.429	10	40	3.49	2.35
			0.191	4.851	-	80	4.46	3.00
1 1/2"	1.900	48.26	0.090	2.286	13	30	2.71	1.82
			0.114	2.896	11	PG*	3.24	2.18
			0.145	3.683	9	40	4.37	2.94
			0.200	5.080	-	80	5.41	3.64
2"	2.375	60.325	0.105	2.667	12	30	3.96	2.66
			0.120	3.048	11	PG*	4.30	2.89
			0.154	3.912	9	40	5.55	3.73
			0.218	5.537	-	80	7.48	5.03
2 1/2"	2.875	73.025	0.105	2.667	12	30	4.84	3.25
			0.145	3.683	9	PG*	6.29	4.23
			0.188	4.775	3/16"	40	8.43	5.66
			0.276	7.010	-	80	11.41	7.67
3"	3.500	88.9	0.120	3.048	11	30	6.75	4.54
			0.150	3.810	9	PG*	7.99	5.37
			0.220	5.588	5	40	12.25	8.23
			0.300	7.620	-	80	15.27	10.26
4"	4.500	114.3	0.120	3.048	11	30	8.74	5.87
			0.156	3.962	8	PG*	10.77	7.24
			0.237	6.020	5	40	15.98	10.74
			0.337	8.560	-	80	22.32	15.00

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Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diametro Exterior		Designacion	Cédula	Espesor de Pared		Peso Teorico		PRESIONES DE PRUEBA HIDROSTÁTICA																							
									ASTM				API Spec 5L																			
	in	mm			lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80					
							MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI
10	10 3/4	273			0.188	4.8	21.23	31.59	4	630	5	735	5	735	9	1,249	9	1,368	11	1,546	11	1,665	12	1,784	13	1,932	14	2,081	16	2,378		
					0.203	5.2	22.89	34.06	5	680	5	793	5	793	9	1,348	10	1,477	12	1,669	12	1,798	13	1,926	14	2,087	15	2,247	18	2,568		
					0.210	5.3	23.66	35.21	5	703	6	820	6	820	10	1,395	11	1,528	12	1,727	13	1,860	14	1,993	15	2,159	16	2,325	18	2,657		
					0.219	5.6	24.66	36.69	5	733	6	856	6	856	10	1,455	11	1,593	12	1,801	13	1,939	14	2,078	16	2,251	17	2,424	19	2,771		
					0.225	5.7	25.32	37.68	5	753	6	879	6	879	10	1,494	11	1,637	13	1,850	14	1,993	15	2,135	16	2,313	17	2,491	20	2,847		
					0.236	6.0	26.53	39.48	5	790	6	922	6	922	11	1,567	12	1,717	13	1,941	14	2,090	15	2,239	17	2,426	18	2,612	21	2,986		
				20	0.250	6.4	28.06	41.76	6	837	7	977	7	977	11	1,660	13	1,819	14	2,056	15	2,214	16	2,372	18	2,570	19	2,767	21	3,000		
					0.264	6.7	29.59	44.04	6	884	7	1,031	7	1,031	12	1,753	13	1,920	15	2,171	16	2,338	17	2,505	19	2,714	20	2,922	21	3,000		
					0.277	7.0	31.01	46.15	6	928	7	1,082	7	1,082	13	1,840	14	2,015	16	2,278	17	2,453	18	2,628	20	2,847	21	3,000	21	3,000		
					0.279	7.1	31.23	46.48	6	934	8	1,090	8	1,090	13	1,853	14	2,030	16	2,294	17	2,471	18	2,647	20	2,868	21	3,000	21	3,000		
					0.281	7.1	31.45	46.80	6	941	8	1,098	8	1,098	13	1,866	14	2,044	16	2,311	17	2,488	18	2,666	20	2,888	21	3,000	21	3,000		
					0.304	7.7	33.95	50.52	7	1,018	8	1,188	8	1,188	14	2,019	15	2,211	17	2,500	19	2,692	20	2,884	21	3,000	21	3,000	21	3,000		
			30	0.307	7.8	34.27	51.01	7	1,028	8	1,199	8	1,199	14	2,039	15	2,233	17	2,525	19	2,719	20	2,913	21	3,000	21	3,000	21	3,000			
				0.312	7.9	34.82	51.81	7	1,045	8	1,219	8	1,219	14	2,072	16	2,270	18	2,566	19	2,763	20	2,960	21	3,000	21	3,000	21	3,000			
				0.322	8.2	35.90	53.42	7	1,078	9	1,258	9	1,258	15	2,139	16	2,342	18	2,648	20	2,852	21	3,000	21	3,000	21	3,000	21	3,000			
				0.330	8.4	36.76	54.71	8	1,105	9	1,289	9	1,289	15	2,192	17	2,401	19	2,714	20	2,922	21	3,000	21	3,000	21	3,000	21	3,000			
				0.344	8.7	38.27	56.95	8	1,152	9	1,344	9	1,344	16	2,285	17	2,502	20	2,829	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.352	8.9	39.13	58.23	8	1,179	9	1,375	9	1,375	16	2,338	18	2,561	20	2,895	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
			STD	40	0.365	9.3	40.52	60.31	8	1,222	10	1,426	10	1,426	17	2,424	18	2,655	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000		
				0.375	9.5	41.59	61.90	9	1,256	10	1,465	10	1,465	17	2,491	19	2,728	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.398	10.1	44.05	65.55	9	1,333	11	1,555	11	1,555	18	2,643	20	2,895	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.406	10.3	44.90	66.82	9	1,360	11	1,586	11	1,586	19	2,697	20	2,953	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.438	11.1	48.29	71.86	10	1,467	12	1,711	12	1,711	20	2,909	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
			XS	60	0.500	12.7	54.79	81.54	12	1,675	13	1,953	13	1,953	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000		
	80	0.594	15.1	64.49	95.98	14	1,989	16	2,320	16	2,320	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000					

Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diámetro Exterior		Designacion	Cédula	Espesor de Pared		Peso Teorico		PRESIONES DE PRUEBA HIDROSTÁTICA																											
									ASTM				API Spec 5L																							
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80							
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI		
12	12 3/4	324		0.188	4.8	25.25	37.57	4	531	4	619	4	619	7	1,053	8	1,153	9	1,303	10	1,404	10	1,504	11	1,629	12	1,755	14	2,005							
				0.203	5.2	27.23	40.52	4	573	5	669	5	669	8	1,137	9	1,245	10	1,407	10	1,516	11	1,624	12	1,759	13	1,895	15	2,165							
				0.210	5.3	28.15	41.90	4	593	5	692	5	692	8	1,176	9	1,288	10	1,456	11	1,568	12	1,680	13	1,820	14	1,960	15	2,240							
				0.219	5.6	29.34	43.66	4	618	5	721	5	721	8	1,226	9	1,343	10	1,518	11	1,635	12	1,752	13	1,898	14	2,044	16	2,336							
				0.225	5.7	30.13	44.84	4	635	5	741	5	741	9	1,260	10	1,380	11	1,560	12	1,680	12	1,800	13	1,950	14	2,100	17	2,400							
			20		0.236	6.0	31.57	46.99	5	666	5	777	5	777	9	1,322	10	1,447	11	1,636	12	1,762	13	1,888	14	2,045	15	2,203	17	2,517						
					0.250	6.4	33.41	49.72	5	706	6	824	6	824	10	1,400	11	1,533	12	1,733	13	1,867	14	2,000	15	2,167	16	2,333	18	2,667						
					0.264	6.7	35.24	52.44	5	745	6	870	6	870	10	1,478	11	1,619	13	1,830	14	1,971	15	2,112	16	2,288	17	2,464	19	2,816						
					0.277	7.0	36.94	54.97	5	782	6	912	6	912	11	1,551	12	1,699	13	1,921	14	2,068	15	2,216	17	2,401	18	2,585	20	2,955						
					0.279	7.1	37.20	55.36	5	788	6	919	6	919	11	1,562	12	1,711	13	1,934	14	2,083	15	2,232	17	2,418	18	2,604	21	2,976						
					0.281	7.1	37.46	55.74	5	793	6	926	6	926	11	1,574	12	1,723	13	1,948	14	2,098	15	2,248	17	2,435	18	2,623	21	2,997						
			30		0.304	7.7	40.45	60.20	6	858	7	1,001	7	1,001	12	1,702	13	1,865	15	2,108	16	2,270	17	2,432	18	2,635	20	2,837	21	3,000						
					0.307	7.8	40.84	60.77	6	867	7	1,011	7	1,011	12	1,719	13	1,883	15	2,129	16	2,292	17	2,456	18	2,661	20	2,865	21	3,000						
					0.312	7.9	41.49	61.74	6	881	7	1,028	7	1,028	12	1,747	13	1,914	15	2,163	16	2,330	17	2,496	19	2,704	20	2,912	21	3,000						
					0.322	8.2	42.78	63.67	6	909	7	1,061	7	1,061	12	1,803	14	1,975	15	2,233	17	2,404	18	2,576	19	2,791	21	3,000	21	3,000						
					0.330	8.4	43.82	65.21	6	932	7	1,087	7	1,087	13	1,848	14	2,024	16	2,288	17	2,464	18	2,640	20	2,860	21	3,000	21	3,000						
					0.344	8.7	45.62	67.90	7	971	8	1,133	8	1,133	13	1,926	15	2,110	16	2,385	18	2,569	19	2,752	21	2,981	21	3,000	21	3,000						
				STD		0.352	8.9	46.65	69.43	7	994	8	1,160	8	1,160	14	1,971	15	2,159	17	2,441	18	2,628	19	2,816	21	3,000	21	3,000	21	3,000					
						0.365	9.3	48.33	71.92	7	1,031	8	1,202	8	1,202	14	2,044	15	2,239	17	2,531	19	2,725	20	2,920	21	3,000	21	3,000	21	3,000					
						0.375	9.5	49.61	73.83	7	1,059	9	1,235	9	1,235	14	2,100	16	2,300	18	2,600	19	2,800	21	3,000	21	3,000	21	3,000	21	3,000					
						0.398	10.1	52.56	78.21	8	1,124	9	1,311	9	1,311	15	2,229	17	2,441	19	2,759	20	2,972	21	3,000	21	3,000	21	3,000	21	3,000					
			40		0.406	10.3	53.58	79.73	8	1,146	9	1,337	9	1,337	16	2,274	17	2,490	19	2,815	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						
					0.438	11.1	57.65	85.80	9	1,237	10	1,443	10	1,443	17	2,453	19	2,686	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						
				XS		0.500	12.7	65.48	97.45	10	1,412	11	1,647	11	1,647	19	2,800	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000					
						0.562	14.3	73.23	108.98	11	1,587	13	1,851	13	1,851	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000					
					0.688	17.5	88.72	132.03	13	1,943	16	2,266	16	2,266	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						



Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diametro Exterior		Designacion	Cédula	Espesor de Pared		Peso Teorico		PRESIONES DE PRUEBA HIDROSTÁTICA																											
									ASTM				API Spec 5L																							
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80							
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI		
14	14	356	10	0.188	4.8	27.76	41.31	3	483	4	564	4	564	7	959	7	1,050	8	1,187	9	1,278	9	1,370	10	1,484	11	1,598	13	1,826							
				0.203	5.2	29.94	44.56	4	522	4	609	4	609	7	1,035	8	1,134	9	1,282	10	1,380	10	1,479	11	1,602	12	1,726	14	1,972							
				0.210	5.3	30.96	46.07	4	540	4	630	4	630	7	1,071	8	1,173	9	1,326	10	1,428	11	1,530	11	1,658	12	1,785	14	2,040							
				0.219	5.6	32.26	48.02	4	563	5	657	5	657	8	1,117	8	1,223	10	1,383	10	1,489	11	1,596	12	1,729	13	1,862	15	2,127							
				0.225	5.7	33.13	49.31	4	579	5	675	5	675	8	1,148	9	1,257	10	1,421	11	1,530	11	1,639	12	1,776	13	1,913	15	2,186							
				0.236	6.0	34.73	51.68	4	607	5	708	5	708	8	1,204	9	1,318	10	1,490	11	1,605	12	1,719	13	1,863	14	2,006	16	2,293							
				0.250	6.4	36.75	54.69	4	643	5	750	5	750	9	1,275	10	1,396	11	1,579	12	1,700	13	1,821	14	1,973	15	2,125	17	2,429							
				0.264	6.7	38.77	57.69	5	679	5	792	5	792	9	1,346	10	1,475	11	1,667	12	1,795	13	1,923	14	2,084	15	2,244	18	2,565							
				0.277	7.0	40.64	60.48	5	712	6	831	6	831	10	1,413	11	1,547	12	1,749	13	1,884	14	2,018	15	2,186	16	2,355	19	2,691							
				0.279	7.1	40.93	60.90	5	717	6	837	6	837	10	1,423	11	1,558	12	1,762	13	1,897	14	2,033	15	2,202	16	2,372	19	2,710							
			0.281	7.1	41.21	61.33	5	723	6	843	6	843	10	1,433	11	1,570	12	1,774	13	1,911	14	2,047	15	2,218	16	2,389	19	2,730								
			0.304	7.7	44.51	66.24	5	782	6	912	6	912	11	1,550	12	1,698	13	1,920	14	2,067	15	2,215	17	2,399	18	2,584	20	2,953								
			0.307	7.8	44.94	66.88	5	789	6	921	6	921	11	1,566	12	1,715	13	1,938	14	2,088	15	2,237	17	2,423	18	2,610	21	2,982								
			0.312	7.9	45.66	67.94	6	802	6	936	6	936	11	1,591	12	1,743	14	1,970	15	2,122	16	2,273	17	2,463	18	2,652	21	3,000								
			0.322	8.2	47.08	70.07	6	828	7	966	7	966	11	1,642	12	1,799	14	2,033	15	2,190	16	2,346	18	2,542	19	2,737	21	3,000								
			0.330	8.4	48.23	71.77	6	849	7	990	7	990	12	1,683	13	1,843	14	2,084	15	2,244	17	2,404	18	2,605	19	2,805	21	3,000								
			0.344	8.7	50.22	74.74	6	885	7	1,032	7	1,032	12	1,754	13	1,921	15	2,172	16	2,339	17	2,506	19	2,715	20	2,924	21	3,000								
			0.352	8.9	51.36	76.43	6	905	7	1,056	7	1,056	12	1,795	14	1,966	15	2,223	17	2,394	18	2,565	19	2,778	21	2,992	21	3,000								
			0.365	9.3	53.20	79.18	6	939	8	1,095	8	1,095	13	1,862	14	2,039	16	2,305	17	2,482	18	2,659	20	2,881	21	3,000	21	3,000								
			STD	30	0.375	9.5	54.62	81.29	7	964	8	1,125	8	1,125	13	1,913	14	2,095	16	2,368	18	2,550	19	2,732	20	2,960	21	3,000	21	3,000						
			0.398	10.1	57.87	86.13	7	1,023	8	1,194	8	1,194	14	2,030	15	2,223	17	2,513	19	2,706	20	2,900	21	3,000	21	3,000	21	3,000								
			0.406	10.3	59.00	87.81	7	1,044	8	1,218	8	1,218	14	2,071	16	2,268	18	2,564	19	2,761	20	2,958	21	3,000	21	3,000	21	3,000								
			40	0.438	11.1	63.50	94.51	8	1,126	9	1,314	9	1,314	15	2,234	17	2,447	19	2,766	21	2,978	21	3,000	21	3,000	21	3,000	21	3,000							
			0.469	11.9	67.84	100.96	8	1,206	10	1,407	10	1,407	16	2,392	18	2,620	20	2,961	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000								
			XS	0.500	12.7	72.16	107.39	9	1,286	10	1,500	10	1,500	18	2,550	19	2,793	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
			60	0.594	15.1	85.13	126.69	11	1,528	12	1,782	12	1,782	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
			80	0.750	19.1	106.24	158.10	13	1,929	16	2,250	16	2,250	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							

Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diámetro Exterior		Designación	Cédula	Espesor de Pared		Peso Teórico		PRESIONES DE PRUEBA HIDROSTÁTICA																					
									ASTM				API Spec 5L																	
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80	
								MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	
16	16	406		0.188	4.8	31.78	47.29	3	423	3	494	3	494	6	839	6	919	7	1,039	8	1,119	8	1,199	9	1,298	10	1,398	11	1,598	
			0.203	5.2	34.28	51.02	3	457	4	533	4	533	6	906	7	992	8	1,122	8	1,208	9	1,294	10	1,402	10	1,510	12	1,726		
			0.210	5.3	35.45	52.75	3	473	4	551	4	551	6	937	7	1,026	8	1,160	9	1,250	9	1,339	10	1,450	11	1,562	12	1,782		
			0.219	5.6	36.95	54.98	3	493	4	575	4	575	7	977	7	1,070	8	1,210	9	1,303	10	1,396	10	1,512	11	1,629	13	1,862		
			0.225	5.7	37.94	56.47	3	506	4	591	4	591	7	1,004	8	1,100	9	1,243	9	1,339	10	1,434	11	1,554	12	1,673	13	1,913		
			0.236	6.0	39.77	59.19	4	531	4	620	4	620	7	1,053	8	1,153	9	1,304	10	1,404	10	1,505	11	1,630	12	1,755	14	2,006		
			10	0.250	6.4	42.09	62.64	4	563	5	656	5	656	8	1,116	8	1,222	10	1,381	10	1,488	11	1,594	12	1,727	13	1,859	15	2,125	
			0.264	6.7	44.41	66.09	4	594	5	693	5	693	8	1,178	9	1,290	10	1,459	11	1,571	12	1,683	13	1,823	14	1,964	15	2,244		
			0.277	7.0	46.56	69.29	4	623	5	727	5	727	9	1,236	9	1,354	11	1,530	11	1,648	12	1,766	13	1,913	14	2,060	16	2,355		
			0.279	7.1	46.89	69.78	4	628	5	732	5	732	9	1,245	9	1,364	11	1,541	11	1,660	12	1,779	13	1,927	14	2,075	16	2,382		
			0.281	7.1	47.22	70.27	4	632	5	738	5	738	9	1,254	9	1,373	11	1,553	12	1,672	12	1,791	13	1,941	14	2,090	16	2,379		
			0.304	7.7	51.01	75.91	5	684	6	798	6	798	9	1,357	10	1,486	12	1,680	12	1,809	13	1,938	14	2,100	16	2,261	18	2,584		
			0.307	7.8	51.50	76.65	5	691	6	806	6	806	9	1,370	10	1,500	12	1,696	13	1,827	13	1,957	15	2,120	16	2,283	18	2,610		
			20	0.312	7.9	52.33	77.87	5	702	6	819	6	819	10	1,392	11	1,525	12	1,724	13	1,856	14	1,989	15	2,155	16	2,321	18	2,652	
			0.322	8.2	53.97	80.32	5	725	6	845	6	845	10	1,437	11	1,574	12	1,779	13	1,916	14	2,053	15	2,224	17	2,395	19	2,737		
			0.330	8.4	55.28	82.27	5	743	6	866	6	866	10	1,473	11	1,613	13	1,823	14	1,964	15	2,104	16	2,279	17	2,454	19	2,805		
			0.344	8.7	57.58	85.68	5	774	6	903	6	903	11	1,535	12	1,681	13	1,901	14	2,047	15	2,193	16	2,376	18	2,559	20	2,924		
			0.352	8.9	58.88	87.63	5	792	6	924	6	924	11	1,571	12	1,720	13	1,945	14	2,094	15	2,244	17	2,431	18	2,618	21	2,992		
			0.365	9.3	61.01	90.79	6	821	7	958	7	958	11	1,629	12	1,784	14	2,017	15	2,172	16	2,327	17	2,521	19	2,715	21	3,000		
			STD	30	0.375	9.5	62.64	93.22	6	844	7	984	7	984	12	1,673	13	1,833	14	2,072	15	2,231	16	2,391	18	2,590	19	2,789	21	3,000
			0.398	10.1	66.38	98.79	6	896	7	1,045	7	1,045	12	1,776	13	1,945	15	2,199	16	2,368	17	2,537	19	2,749	20	2,960	21	3,000		
			0.406	10.3	67.68	100.73	6	914	7	1,066	7	1,066	12	1,812	14	1,984	15	2,243	17	2,416	18	2,588	19	2,804	21	3,000	21	3,000		
			0.438	11.1	72.87	108.44	7	986	8	1,150	8	1,150	13	1,955	15	2,141	17	2,420	18	2,606	19	2,792	21	3,000	21	3,000	21	3,000		
			0.469	11.9	77.87	115.89	7	1,055	8	1,231	8	1,231	14	2,093	16	2,292	18	2,591	19	2,791	21	2,990	21	3,000	21	3,000	21	3,000		
			XS	40	0.500	12.7	82.85	123.30	8	1,125	9	1,313	9	1,313	15	2,231	17	2,444	19	2,763	21	2,975	21	3,000	21	3,000	21	3,000	21	3,000
			60	0.656	16.7	107.61	160.14	10	1,476	12	1,723	12	1,723	20	2,927	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	
			80	0.844	21.4	136.75	203.51	13	1,899	15	2,216	15	2,216	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	
18	18	457		0.219	5.6	41.63	61.95	3	438	4	511	4	511	6	869	7	951	7	1,076	8	1,158	9	1,241	9	1,344	10	1,448	11	1,655	
			10	0.250	6.4	47.44	70.60	3	500	4	583	4	583	7	992	7	1,086	8	1,228	9	1,322	10	1,417	11	1,535	11	1,653	13	1,889	
			0.281	7.1	53.23	79.21	4	562	5	656	5	656	8	1,115	8	1,221	10	1,380	10	1,486	11	1,592	12	1,725	13	1,858	15	2,123		
			20	0.312	7.9	59.00	87.80	4	624	5	728	5	728	9	1,238	9	1,355	11	1,532	11	1,650	12	1,768	13	1,915	14	2,063	16	2,357	
			0.344	8.7	64.93	96.63	5	688	6	803	6	803	9	1,365	10	1,494	12	1,689	13	1,819	13	1,949	15	2,112	16	2,274	18	2,599		
			STD	0.375	9.5	70.66	105.15	5	750	6	875	6	875	10	1,488	11	1,629	13	1,842	14	1,983	15	2,125	16	2,302	17	2,479	20	2,833	
			0.406	10.3	76.36	113.65	6	812	7	947	7	947	11	1,610	12	1,764	14	1,994	15	2,147	16	2,301	17	2,492	19	2,684	21	3,000		
			30	0.438	11.1	82.23	122.38	6	876	7	1,022	7	1,022	12	1,737	13	1,903	15	2,151	16	2,317	17	2,482	19	2,689	20	2,896	21	3,000	
			0.469	11.9	87.90	130.81	6	938	8	1,094	8	1,094	13	1,860	14	2,038	16	2,303	17	2,480	18	2,658	20	2,879	21	3,000	21	3,000		
			XS	0.500	12.7	93.54	139.21	7	1,000	8	1,167	8	1,167	14	1,983	15	2,172	17	2,456	18	2,644	20	2,833	21	3,000	21	3,000	21	3,000	
			40	0.562	14.3	104.77	155.92	8	1,124	9	1,312	9	1,312	15	2,229	21	3,000	19	2,761	20	2,972	21	3,000	21	3,000	21	3,000	21	3,000	
			60	0.750	19.1	138.31	205.83	10	1,500	12	1,751	12	1,751	21	2,975	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	



Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diametro Exterior		Designacion	Cédula	Espesor de Pared		Peso Teorico		PRESIONES DE PRUEBA HIDROSTÁTICA																											
									ASTM								API Spec 5L																			
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80							
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI		
20	20	508		0.219	5.6	46.31	68.92	3	394	3	460	3	460	6	828	6	907	7	1,025	8	1,104	8	1,183	9	1,281	10	1,380	11	1,577							
			10	0.250	6.4	52.78	78.55	3	450	4	525	4	525	7	945	7	1,035	8	1,170	9	1,260	9	1,350	10	1,463	11	1,575	12	1,800							
				0.281	7.1	59.24	88.16	3	506	4	590	4	590	7	1,062	8	1,163	9	1,315	10	1,416	10	1,517	11	1,644	12	1,770	14	2,023							
				0.312	7.9	65.67	97.73	4	562	5	655	5	655	8	1,179	9	1,292	10	1,460	11	1,572	12	1,685	13	1,825	14	1,966	15	2,246							
				0.344	8.7	72.29	107.58	4	619	5	722	5	722	9	1,300	10	1,424	11	1,610	12	1,734	13	1,858	14	2,012	15	2,167	17	2,477							
			STD	20	0.375	9.5	78.68	117.09	5	675	5	788	5	788	10	1,418	11	1,553	12	1,755	13	1,890	14	2,025	15	2,194	16	2,363	19	2,700						
				0.406	10.3	85.04	126.56	5	731	6	853	6	853	11	1,535	12	1,681	13	1,900	14	2,046	15	2,192	16	2,375	18	2,558	20	2,923							
				0.438	11.1	91.60	136.32	5	788	6	920	6	920	11	1,656	13	1,813	14	2,050	15	2,208	16	2,365	18	2,562	19	2,759	21	3,000							
				0.469	11.9	97.93	145.73	6	844	7	985	7	985	12	1,773	13	1,942	15	2,195	16	2,364	17	2,533	19	2,744	20	2,955	21	3,000							
			XS	30	0.500	12.7	104.23	155.12	6	900	7	1,050	7	1,050	13	1,890	14	2,070	16	2,340	17	2,520	19	2,700	20	2,925	21	3,000	21	3,000						
				0.562	14.3	116.79	173.80	7	1,012	8	1,180	8	1,180	15	2,124	16	2,327	18	2,630	20	2,832	21	3,000	21	3,000	21	3,000	21	3,000							
				0.625	15.9	129.46	192.66	8	1,125	9	1,313	9	1,313	16	2,363	18	2,588	20	2,925	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
				0.688	17.5	142.04	211.39	9	1,238	10	1,445	10	1,445	18	2,601	20	2,848	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
				0.750	19.1	154.34	229.70	9	1,350	11	1,575	11	1,575	20	2,835	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
				60	0.812	20.6	166.57	247.88	10	1,462	12	1,705	12	1,705	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						
				0.875	22.2	178.90	266.24	11	1,575	13	1,838	13	1,838	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000							
	80	1.031	26.2	209.08	311.15	13	1,856	15	2,166	15	2,166	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000									
22	22	559		0.219	5.6	50.99	75.89	2	358	3	418	3	418	5	753	6	824	6	932	7	1,003	7	1,075	8	1,165	9	1,254	10	1,433							
			10	0.250	6.4	58.13	86.51	3	409	3	477	3	477	6	859	6	941	7	1,064	8	1,145	8	1,227	9	1,330	10	1,432	11	1,636							
				0.281	7.1	65.24	97.10	3	460	4	536	4	536	7	966	7	1,058	8	1,196	9	1,287	10	1,379	10	1,494	11	1,609	13	1,839							
				0.312	7.9	72.34	107.66	4	511	4	596	4	596	7	1,072	8	1,174	9	1,327	10	1,430	11	1,532	11	1,659	12	1,787	14	2,042							
				0.344	8.7	79.64	118.52	4	563	5	657	5	657	8	1,182	9	1,295	10	1,464	11	1,576	12	1,689	13	1,829	14	1,970	16	2,252							
			STD	20	0.375	9.5	86.69	129.02	4	614	5	716	5	716	9	1,289	10	1,411	11	1,595	12	1,718	13	1,841	14	1,994	15	2,148	17	2,455						
				0.406	10.3	93.73	139.48	5	664	5	775	5	775	10	1,395	11	1,528	12	1,727	13	1,860	14	1,993	15	2,159	16	2,325	18	2,657							
				0.438	11.1	100.96	150.25	5	717	6	836	6	836	10	1,505	11	1,648	13	1,863	14	2,007	15	2,150	16	2,329	17	2,509	20	2,867							
				0.469	11.9	107.95	160.66	5	767	6	895	6	895	11	1,612	12	1,765	14	1,995	15	2,149	16	2,302	17	2,494	19	2,686	21	3,000							
			XS	30	0.500	12.7	114.92	171.03	6	818	7	955	7	955	12	1,718	13	1,882	15	2,127	16	2,291	17	2,455	18	2,659	20	2,864	21	3,000						
				0.562	14.3	128.80	191.68	6	920	7	1,073	7	1,073	13	1,931	15	2,115	16	2,391	18	2,575	19	2,759	21	2,989	21	3,000	21	3,000							
				0.625	15.9	142.82	212.54	7	1,023	8	1,193	8	1,193	15	2,148	16	2,352	18	2,659	20	2,864	21	3,000	21	3,000	21	3,000	21	3,000							
				60	0.875	22.2	197.61	294.08	10	1,432	12	1,670	12	1,670	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						
				80	1.125	28.6	251.07	373.63	13	1,841	15	2,147	15	2,147	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000						

Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diámetro Exterior		Designación	Cédula	Espesor de Pared		Peso Teórico		PRESIONES DE PRUEBA HIDROSTÁTICA																							
									ASTM				API Spec 5L																			
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80			
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI
24	24	610	10	0.250	6.4	63.48	94.46	3	375	3	438	3	438	5	788	6	863	7	975	7	1,050	8	1,125	8	1,219	9	1,313	10	1,500			
				0.281	7.1	71.25	106.04	3	422	3	492	3	492	6	885	7	969	8	1,096	8	1,180	9	1,265	9	1,370	10	1,475	12	1,686			
				0.312	7.9	79.01	117.58	3	468	4	546	4	546	7	983	7	1,076	8	1,217	9	1,310	10	1,404	10	1,521	11	1,638	13	1,872			
				0.344	8.7	87.00	129.47	4	516	4	602	4	602	7	1,084	8	1,187	9	1,342	10	1,445	11	1,548	12	1,677	12	1,806	14	2,064			
			STD	20	0.375	9.5	94.71	140.95	4	563	5	656	5	656	8	1,181	9	1,294	10	1,463	11	1,575	12	1,688	13	1,828	14	1,969	16	2,250		
				0.406	10.3	102.41	152.40	4	609	5	711	5	711	9	1,279	10	1,401	11	1,583	12	1,705	13	1,827	14	1,979	15	2,132	17	2,436			
				0.438	11.1	110.33	164.19	5	657	5	767	5	767	10	1,380	10	1,511	12	1,708	13	1,840	14	1,971	15	2,135	16	2,300	18	2,628			
				0.469	11.9	117.98	175.58	5	704	6	821	6	821	10	1,477	11	1,618	13	1,829	14	1,970	15	2,111	16	2,286	17	2,462	19	2,814			
			XS		0.500	12.7	125.61	186.94	5	750	6	875	6	875	11	1,575	12	1,725	13	1,950	14	2,100	16	2,250	17	2,438	18	2,625	21	3,000		
				0.562	14.3	140.82	209.56	6	843	7	984	7	984	12	1,770	13	1,939	15	2,192	16	2,360	17	2,529	19	2,740	20	2,951	21	3,000			
				0.625	15.9	156.18	232.43	6	938	8	1,094	8	1,094	14	1,969	15	2,156	17	2,438	18	2,625	19	2,813	21	3,000	21	3,000	21	3,000			
				40	0.688	17.5	171.46	255.17	7	1,032	8	1,204	8	1,204	15	2,167	16	2,374	18	2,683	20	2,890	21	3,000	21	3,000	21	3,000	21	3,000		
				0.750	19.1	186.42	277.42	8	1,125	9	1,313	9	1,313	16	2,363	18	2,588	20	2,925	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.812	20.6	201.29	299.56	8	1,218	10	1,421	10	1,421	18	2,558	19	2,801	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.875	22.2	216.32	321.92	9	1,313	11	1,531	11	1,531	19	2,756	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				60	0.969	24.6	238.59	355.06	10	1,454	12	1,695	12	1,695	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000		
	80	1.219	31.0	296.88	441.81	13	1,829	15	2,133	15	2,133	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000					
30	30	762		0.250	6.4	79.51	118.33	2	300	2	350	2	350	4	630	5	690	5	780	6	840	6	900	7	975	7	1,050	8	1,200			
				0.281	7.1	89.28	132.86	2	337	3	393	3	393	5	708	5	776	6	877	7	944	7	1,012	8	1,096	8	1,180	9	1,349			
			10	0.312	7.9	99.02	147.37	3	374	3	437	3	437	5	786	6	861	7	973	7	1,048	8	1,123	8	1,217	9	1,310	10	1,498			
				0.344	8.7	109.06	162.30	3	413	3	482	3	482	6	867	7	949	7	1,073	8	1,156	9	1,238	9	1,342	10	1,445	11	1,651			
			STD		0.375	9.5	118.77	176.75	3	450	4	525	4	525	7	945	7	1,035	8	1,170	9	1,260	9	1,350	10	1,463	11	1,575	12	1,800		
				0.406	10.3	128.45	191.16	3	487	4	568	4	568	7	1,023	8	1,121	9	1,267	9	1,364	10	1,462	11	1,583	12	1,705	13	1,949			
				0.438	11.1	138.42	206.00	4	526	4	613	4	613	8	1,104	8	1,209	9	1,367	10	1,472	11	1,577	12	1,708	13	1,840	14	2,102			
				0.469	11.9	148.06	220.35	4	563	5	657	5	657	8	1,182	9	1,294	10	1,463	11	1,576	12	1,688	13	1,829	14	1,970	16	2,251			
			XS	20	0.500	12.7	157.69	234.67	4	600	5	700	5	700	9	1,260	10	1,380	11	1,560	12	1,680	12	1,800	13	1,950	14	2,100	17	2,400		
				0.562	14.3	176.87	263.21	5	674	5	787	5	787	10	1,416	11	1,551	12	1,753	13	1,888	14	2,023	15	2,192	16	2,360	19	2,698			
				30	0.625	15.9	196.27	292.09	5	750	6	875	6	875	11	1,575	12	1,725	13	1,950	14	2,100	16	2,250	17	2,438	18	2,625	21	3,000		
				0.688	17.5	215.59	320.84	6	826	7	963	7	963	12	1,734	13	1,899	15	2,147	16	2,312	17	2,477	18	2,683	20	2,890	21	3,000			
				0.750	19.1	234.52	349.02	6	900	7	1,050	7	1,050	13	1,890	14	2,070	16	2,340	17	2,520	19	2,700	20	2,925	21	3,000	21	3,000			
				0.812	20.6	253.37	377.07	7	974	8	1,137	8	1,137	14	2,046	15	2,241	17	2,533	19	2,728	20	2,923	21	3,000	21	3,000	21	3,000			
				0.875	22.2	272.44	405.45	7	1,050	8	1,225	8	1,225	15	2,205	17	2,415	19	2,730	20	2,940	21	3,000	21	3,000	21	3,000	21	3,000			
				0.900	22.9	279.98	416.67	7	1,080	9	1,260	9	1,260	16	2,268	17	2,484	19	2,808	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				0.938	23.8	291.43	433.70	8	1,126	9	1,313	9	1,313	16	2,364	18	2,589	20	2,927	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				1.000	25.4	310.03	461.38	8	1,200	10	1,400	10	1,400	17	2,520	19	2,760	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				1.250	31.8	384.19	571.75	10	1,500	12	1,750	12	1,750	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			
				1.500	38.1	457.02	680.14	12	1,800	14	2,100	14	2,100	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000			



Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diámetro Exterior		Designación	Cédula	Espesor de Pared		Peso Teórico		PRESIONES DE PRUEBA HIDROSTÁTICA																							
									ASTM				API Spec 5L																			
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80			
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI
34	34	864	STD	0.250	6.4	90.20	134.24	2	265	2	309	2	309	4	556	4	609	5	688	5	741	5	794	6	860	6	926	7	1,059			
				0.281	7.1	101.29	150.74	2	298	2	347	2	347	4	625	5	684	5	774	6	833	6	893	7	967	7	1,041	8	1,190			
				0.312	7.9	112.36	167.22	2	330	3	385	3	385	5	694	5	760	6	859	6	925	7	991	7	1,074	8	1,156	9	1,321			
				0.344	8.7	123.77	184.20	3	364	3	425	3	425	5	765	6	838	7	947	7	1,020	8	1,093	8	1,184	9	1,275	10	1,457			
				0.375	9.5	134.80	200.61	3	397	3	463	3	463	6	834	6	913	7	1,032	8	1,112	8	1,191	9	1,290	10	1,390	11	1,588			
				0.406	10.3	145.81	216.99	3	430	3	502	3	502	6	903	7	989	8	1,118	8	1,204	9	1,290	10	1,397	10	1,505	12	1,720			
				0.438	11.1	157.15	233.87	3	464	4	541	4	541	7	974	7	1,067	8	1,206	9	1,299	10	1,391	10	1,507	11	1,623	13	1,855			
				0.469	11.9	168.12	250.20	3	497	4	579	4	579	7	1,043	8	1,142	9	1,291	10	1,390	10	1,490	11	1,614	12	1,738	14	1,986			
				XS	20	0.500	12.7	179.07	266.49	4	529	4	618	4	618	8	1,112	8	1,218	9	1,376	10	1,482	11	1,588	12	1,721	13	1,853	15	2,118	
						0.562	14.3	200.90	298.98	4	595	5	694	5	694	9	1,250	9	1,369	11	1,547	11	1,666	12	1,785	13	1,934	14	2,083	16	2,380	
					30	0.625	15.9	223.00	331.87	5	662	5	772	5	772	10	1,390	10	1,522	12	1,721	13	1,853	14	1,985	15	2,151	16	2,316	18	2,647	
					40	0.688	17.5	245.02	364.63	5	729	6	850	6	850	11	1,530	15	2,185	13	1,894	14	2,040	15	2,185	16	2,368	18	2,549	20	2,914	
36	36	914	STD	0.281	7.1	107.30	159.69	2	281	2	328	2	328	4	590	4	646	5	731	5	787	6	843	6	913	7	984	8	1,124			
				10	0.312	7.9	119.04	177.15	2	312	3	364	3	364	5	655	5	718	6	811	6	874	6	936	7	1,014	8	1,092	9	1,248		
					0.344	8.7	131.13	195.14	2	344	3	401	3	401	5	722	5	791	6	894	7	963	7	1,032	8	1,118	8	1,204	9	1,376		
					0.375	9.5	142.82	212.54	3	375	3	438	3	438	5	788	6	863	7	975	7	1,050	8	1,125	8	1,219	9	1,313	10	1,500		
					0.406	10.3	154.49	229.91	3	406	3	474	3	474	6	853	6	934	7	1,056	8	1,137	8	1,218	9	1,320	10	1,421	11	1,624		
					0.438	11.1	166.52	247.81	3	438	4	511	4	511	6	920	7	1,007	8	1,139	8	1,226	9	1,314	10	1,424	11	1,533	12	1,752		
					0.469	11.9	178.15	265.12	3	469	4	547	4	547	7	985	7	1,079	8	1,219	9	1,313	10	1,407	11	1,524	11	1,642	13	1,876		
				20	0.500	12.7	189.76	282.40	3	500	4	583	4	583	7	1,050	8	1,150	9	1,300	10	1,400	10	1,500	11	1,625	12	1,750	14	2,000		
						0.562	14.3	212.91	316.86	4	562	5	656	5	656	8	1,180	9	1,293	10	1,461	11	1,574	12	1,686	13	1,827	14	1,967	15	2,248	
					30	0.625	15.9	236.36	351.75	4	625	5	729	5	729	9	1,313	10	1,438	11	1,625	12	1,750	13	1,875	14	2,031	15	2,188	17	2,500	
						0.688	17.5	259.72	386.52	5	688	6	803	6	803	10	1,445	11	1,582	12	1,789	13	1,926	14	2,064	15	2,236	17	2,408	19	2,752	
				40	0.750	19.1	282.63	420.61	5	750	6	875	6	875	11	1,575	12	1,725	13	1,950	14	2,100	16	2,250	17	2,438	18	2,625	21	3,000		
						0.812	20.6	305.46	454.58	6	812	7	947	7	947	12	1,705	13	1,868	15	2,111	16	2,274	17	2,436	18	2,639	20	2,842	21	3,000	
						0.875	22.2	328.57	488.97	6	875	7	1,021	7	1,021	13	1,838	14	2,013	16	2,275	17	2,450	18	2,625	20	2,844	21	3,000	21	3,000	
						0.900	22.9	337.71	502.59	6	900	7	1,050	7	1,050	13	1,890	14	2,070	16	2,340	17	2,520	19	2,700	20	2,925	21	3,000	21	3,000	
						0.938	23.8	351.59	523.24	6	938	8	1,094	8	1,094	14	1,970	15	2,157	17	2,439	18	2,626	19	2,814	21	3,000	21	3,000	21	3,000	
						1.000	25.4	374.17	556.84	7	1,000	8	1,167	8	1,167	14	2,100	16	2,300	18	2,600	19	2,800	21	3,000	21	3,000	21	3,000	21	3,000	
						1.062	27.0	396.66	590.31	7	1,062	9	1,239	9	1,239	15	2,230	17	2,443	19	2,761	21	2,974	21	3,000	21	3,000	21	3,000	21	3,000	
						1.125	28.6	419.44	624.21	8	1,125	9	1,313	9	1,313	16	2,363	18	2,588	20	2,925	21	3,000	21	3,000	21	3,000	21	3,000	21	3,000	

Dimensiones, Pesos y Presiones Hidrostáticas para Tubería de Acero de Diámetros Mayores.

Medida Nominal (in)	Diametro Exterior		Designacion	Cédula	Espesor de Pared		Peso Teorico		PRESIONES DE PRUEBA HIDROSTÁTICA																											
									ASTM								API Spec 5L																			
	in	mm			in	mm	lb/ft	kg/m	A53 A		A53 B		B		X-42		X-46		X-52		X-56		X-60		X-65		X-70		X-80							
									MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI		
42	42	1067		0.344	8.7	153.19	227.98	2	295	2	344	2	344	4	619	5	678	5	767	6	826	6	885	7	958	7	1,032	8	1,179							
				0.375	9.5	166.87	248.34	2	321	3	375	3	375	5	675	5	739	6	836	6	900	7	964	7	1,045	8	1,125	9	1,286							
				0.406	10.3	180.53	268.67	2	348	3	406	3	406	5	731	6	800	6	905	7	974	7	1,044	8	1,131	8	1,218	10	1,392							
				0.438	11.1	194.61	289.62	3	375	3	438	3	438	5	788	6	863	7	976	7	1,051	8	1,126	8	1,220	9	1,314	10	1,502							
				0.469	11.9	208.23	309.89	3	402	3	469	3	469	6	844	6	925	7	1,045	8	1,126	8	1,206	9	1,307	10	1,407	11	1,608							
				0.500	12.7	221.83	330.13	3	429	3	500	3	500	6	900	7	986	8	1,114	8	1,200	9	1,286	10	1,393	10	1,500	12	1,714							
				0.562	14.3	248.96	370.51	3	482	4	562	4	562	7	1,012	8	1,108	9	1,252	9	1,349	10	1,445	11	1,566	12	1,686	13	1,927							
				0.625	15.9	276.45	411.41	4	536	4	625	4	625	8	1,125	8	1,232	10	1,393	10	1,500	11	1,607	12	1,741	13	1,875	15	2,143							
				0.688	17.5	303.85	452.19	4	590	5	688	5	688	9	1,238	9	1,356	11	1,533	11	1,651	12	1,769	13	1,917	14	2,064	16	2,359							
				0.750	19.1	330.74	492.20	4	643	5	750	5	750	9	1,350	10	1,479	12	1,671	12	1,800	13	1,929	14	2,089	16	2,250	18	2,571							
				0.812	20.6	357.54	532.09	5	696	6	812	6	812	10	1,462	11	1,601	12	1,810	13	1,949	14	2,088	16	2,262	17	2,436	19	2,784							
				0.875	22.2	384.69	572.50	5	750	6	875	6	875	11	1,575	12	1,725	13	1,950	14	2,100	16	2,250	17	2,438	18	2,625	21	3,000							
				0.900	22.9	395.44	588.50	5	771	6	900	6	900	11	1,620	12	1,774	14	2,006	15	2,160	16	2,314	17	2,507	19	2,700	21	3,000							
				0.938	23.8	411.76	612.78	6	804	6	938	6	938	12	1,688	13	1,849	14	2,090	16	2,251	17	2,412	18	2,613	19	2,814	21	3,000							
				1.000	25.4	438.31	652.30	6	857	7	1,000	7	1,000	12	1,800	14	1,971	15	2,229	17	2,400	18	2,571	19	2,786	21	3,000	21	3,000							
				1.062	27.0	464.78	691.69	6	910	7	1,062	7	1,062	13	1,912	14	2,094	16	2,367	18	2,549	19	2,731	20	2,958	21	3,000	21	3,000							
				1.125	28.6	491.60	731.60	7	964	8	1,125	8	1,125	14	2,025	15	2,218	17	2,507	19	2,700	20	2,893	21	3,000	21	3,000	21	3,000							
48	48	1219		0.406	10.3	206.57	307.42	2	305	2	355	2	355	4	639	5	700	5	792	6	853	6	914	7	990	7	1,066	8	1,218							
				0.438	11.1	222.71	331.43	2	329	3	383	3	383	5	690	5	756	6	854	6	920	7	986	7	1,068	8	1,150	9	1,314							
				0.469	11.9	238.31	354.66	2	352	3	410	3	410	5	739	6	809	6	915	7	985	7	1,055	8	1,143	8	1,231	10	1,407							
				0.500	12.7	253.90	377.85	3	375	3	438	3	438	5	788	6	863	7	975	7	1,050	8	1,125	8	1,219	9	1,313	10	1,500							
				0.562	14.3	285.01	424.15	3	422	3	492	3	492	6	885	7	969	8	1,096	8	1,180	9	1,265	9	1,370	10	1,475	12	1,686							
				0.625	15.9	316.54	471.07	3	469	4	547	4	547	7	984	7	1,078	8	1,219	9	1,313	10	1,406	11	1,523	11	1,641	13	1,875							
				0.688	17.5	347.98	517.87	4	516	4	602	4	602	7	1,084	8	1,187	9	1,342	10	1,445	11	1,548	12	1,677	12	1,806	14	2,064							
				0.750	19.1	378.85	563.80	4	563	5	656	5	656	8	1,181	9	1,294	10	1,463	11	1,575	12	1,688	13	1,828	14	1,969	16	2,250							
				0.812	20.6	409.63	609.60	4	609	5	711	5	711	9	1,279	10	1,401	11	1,583	12	1,705	13	1,827	14	1,979	15	2,132	17	2,436							
				0.875	22.2	440.82	656.02	5	656	5	766	5	766	10	1,378	10	1,509	12	1,706	13	1,838	14	1,969	15	2,133	16	2,297	18	2,625							
				0.900	22.9	453.17	674.41	5	675	5	788	5	788	10	1,418	11	1,553	12	1,755	13	1,890	14	2,025	15	2,194	16	2,363	19	2,700							
				0.938	23.8	471.92	702.32	5	704	6	821	6	821	10	1,477	11	1,618	13	1,829	14	1,970	15	2,111	16	2,286	17	2,462	19	2,814							
				1.000	25.4	502.45	747.75	5	750	6	875	6	875	11	1,575	12	1,725	13	1,950	14	2,100	16	2,250	17	2,438	18	2,625	21	3,000							
				1.062	27.0	532.90	793.07	5	797	6	929	6	929	12	1,673	13	1,832	14	2,071	15	2,230	16	2,390	18	2,589	19	2,788	21	3,000							
				1.125	28.6	563.76	838.99	6	844	7	984	7	984	12	1,772	13	1,941	15	2,194	16	2,363	17	2,531	19	2,742	20	2,953	21	3,000							

Especificaciones de Tubería con Ranura para Ademe de Pozo Profundo.

Especificaciones Técnicas de Ademe de Ranura Longitudinal

Diámetro Nominal	Tipo de Ranura	Ranuras por metro lineal	Ranuras por pie lineal	Área de Infiltración cm ² /Metro lineal				Área de Infiltración pulg ² /Pie lineal			
				Aberturas				Aberturas			
				1/8"	5/32"	3/32"	1/4"	1/8"	5/32"	3/16"	1/4"
6"	II	39	12	85	106	127	169	4.0	5.0	6.0	8.0
	III	52	16	113	141	169	225	5.3	6.7	8.0	10.6
	IV	104	32	226	282	338	451	10.7	13.3	16.0	21.3
8"	II	78	24	169	211	253	338	8.0	10.0	12.0	16.0
	III	91	28	197	247	296	393	9.3	11.7	14.0	18.6
	IV	143	44	310	387	465	620	14.6	18.3	22.0	29.3
10"	II	91	28	197	247	296	394	9.3	11.7	14.0	18.6
	III	104	32	226	282	338	451	10.7	13.3	16.0	21.3
	IV	169	52	367	458	549	732	17.3	21.6	25.9	34.6
12"	II	91	28	197	247	296	394	9.3	11.7	14.0	18.6
	III	117	36	254	317	380	507	12.0	15.0	18.0	24.0
	IV	195	59	423	528	634	845	20.0	24.9	30.0	39.9
14"	II	117	36	254	317	380	507	12.0	15.0	18.0	24.0
	III	143	44	310	387	465	620	14.6	18.3	22.0	29.3
	IV	234	71	508	634	760	1014	24.0	30.0	35.9	47.9
16"	II	130	40	282	352	422	563	13.3	16.6	19.9	26.6
	III	156	48	338	423	507	676	16.0	20.0	24.0	31.9
	IV	260	79	564	705	845	1127	26.6	33.3	39.9	53.2
18"	II	143	44	310	387	465	620	14.6	18.3	22.0	29.3
	III	182	55	395	493	591	789	18.7	23.3	27.9	37.3
	IV	299	91	649	810	972	1296	30.7	38.3	45.9	61.2

Especificaciones Técnicas de Ademe de Ranura de Canastilla

Diámetro Nominal	Área de infiltración					
	Abertura					
	I		II		III	
	cm ² /m	pulg ² /Pie	cm ² /m	pulg ² /Pie	cm ² /m	pulg ² /Pie
8"	443	20.93	739	34.91	946	44.69
10"	542	25.61	903	42.66	1156	54.61
12"	542	25.61	903	42.66	1156	54.61
14"	542	25.61	903	42.66	1156	54.61
16"	697	32.93	1161	54.86	1486	70.20
18"	813	38.41	1355	64.02	1734	81.92
20"	891	42.09	1484	70.11	1899	89.72

Dimensiones y Pesos Teóricos de Placa de Acero.

Placa de Acero en Hoja o Rollo

Espesor			Peso		Peso teórico por placa (kg.)										
Pulg.	Milésimas	mm.	kg./m. ²	kg./pie ²	Medidas										
					3'x6'	3'x8'	3'x10'	4'x8'	4'x10'	5'x10'	5'x15'	5'x20'	6'x10'	6'x20'	8'x20'
3/16"	188	4.760	37.4	3.47	62.52	83.36	104.20	111.14	138.93	173.66	260.49	347.32	208.39	416.79	555.72
1/4"	250	6.350	49.9	4.63	83.36	111.14	138.93	148.19	185.24	231.55	347.32	463.10	277.86	555.72	740.96
5/16"	313	7.940	62.3	5.79	104.20	138.93	173.66	185.24	231.55	289.44	434.16	578.87	347.32	694.65	926.20
3/8"	375	9.530	74.8	6.95	125.04	166.72	208.39	222.29	277.86	347.32	520.99	694.65	416.79	833.58	1,111.44
7/16"	438	11.110	87.2	8.10	145.88	194.50	243.13	259.34	324.17	405.21	607.82	810.42	486.25	972.51	1,296.68
1/2"	500	12.700	99.7	9.26	166.72	222.29	277.86	296.38	370.48	463.10	694.65	926.20	555.72	1,111.44	1,481.92
5/8"	625	15.880	124.6	11.58	208.39	277.86	347.32	370.48	463.10	578.87	868.31	1,157.75	694.65	1,389.30	1,852.40
3/4"	750	19.050	149.5	13.89	250.07	333.43	416.79	444.58	555.72	694.65	1,041.97	1,389.30	833.58	1,667.16	2,222.88
7/8"	875	22.230	174.5	16.21	291.75	389.00	486.25	518.67	648.34	810.42	1,215.63	1,620.85	972.51	1,945.02	2,593.35
1"	1,000	25.400	199.4	18.52	333.43	444.58	555.72	592.77	740.96	926.20	1,389.30	1,852.40	1,111.44	2,222.88	2,963.83
1 1/4"	1250	31.750	249.2	23.15	416.79	555.72	694.65	740.96	926.20	1,157.75	1,736.62	2,315.49	1,389.30	2,778.59	3,704.79
1 1/2"	1500	38.100	299.1	27.79	500.15	666.86	833.58	889.15	1,111.44	1,389.30	2,083.95	2,778.59	1,667.16	3,334.31	4,445.75
1 3/4"	1750	44.450	348.9	32.42	583.50	778.01	972.51	1,037.34	1,296.68	1,620.85	2,431.27	3,241.69	1,945.02	3,890.03	5,186.71
2"	2000	50.800	398.8	37.05	666.86	889.15	1,111.44	1,185.53	1,481.92	1,852.40	2,778.59	3,704.79	2,222.88	4,445.75	5,927.67
2 1/2"	2500	63.500	498.5	46.31	833.58	1,111.44	1,389.30	1,481.92	1,852.40	2,315.49	3,473.24	4,630.99	2,778.59	5,557.19	7,409.58
3"	3000	76.200	598.2	55.57	1,000.29	1,333.73	1,667.16	1,778.30	2,222.88	2,778.59	4,167.89	5,557.19	3,334.31	6,668.63	8,891.50
3 1/2"	3500	88.900	697.9	64.83	1,167.01	1,556.01	1,945.02	2,074.68	2,593.35	3,241.69	4,862.54	6,483.39	3,890.03	7,780.06	10,373.42
4"	4000	101.600	797.6	74.10	1,333.73	1,778.30	2,222.88	2,371.07	2,963.83	3,704.79	5,557.19	7,409.58	4,445.75	8,891.50	11,855.33
4 1/2"	4500	114.300	897.3	83.36	1,500.44	2,000.59	2,500.73	2,667.45	3,334.31	4,167.89	6,251.84	8,335.78	5,001.47	10,002.94	13,337.25
5"	5000	127.000	997.0	92.62	1,667.16	2,222.88	2,778.59	2,963.83	3,704.79	4,630.99	6,946.48	9,261.98	5,557.19	11,114.38	14,819.17
6"	6000	152.400	1196.3	111.14	2,000.59	2,667.45	3,334.31	3,556.60	4,445.75	5,557.19	8,335.78	11,114.38	6,668.63	13,337.25	17,783.00



Dimensiones y Pesos Teóricos de Lámina de Acero.

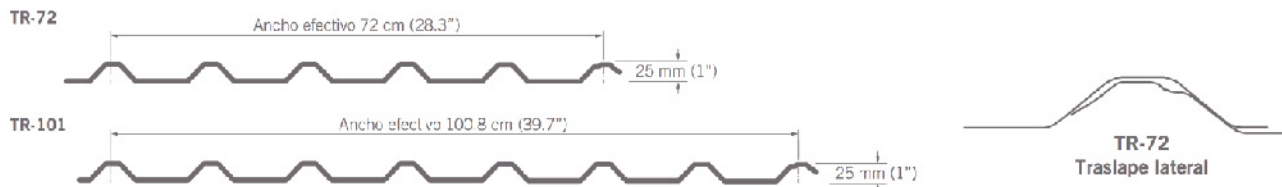
Lámina Rolada en Caliente

Calibre	Espesor		Peso		Peso teórico por hoja (kg.)				
	Pulg.	mm.	kg./pie ²	kg./m. ²	3' x 6'	3' x 8'	3' x 10'	4' x 8'	4' x 10'
3	0.239	6.070	4.4	47.65	79.68	106.24	132.81	141.66	177.07
4	0.224	5.690	4.2	44.67	74.69	99.59	124.49	132.79	165.99
5	0.209	5.310	3.9	41.68	69.71	92.94	116.18	123.92	154.90
6	0.194	4.940	3.6	38.78	64.85	86.46	108.08	115.29	144.11
7	0.179	4.550	3.3	35.72	59.73	79.64	99.55	106.19	132.73
8	0.164	4.180	3.1	32.81	54.87	73.16	91.45	97.55	121.94
9	0.150	3.800	2.8	29.83	49.88	66.51	83.14	88.68	110.85
10	0.135	3.420	2.5	26.85	44.90	59.86	74.83	79.81	99.77
11	0.120	3.040	2.2	23.86	39.91	53.21	66.51	70.95	88.68
12	0.105	2.660	1.9	20.88	34.92	46.56	58.20	62.08	77.60
13	0.090	2.280	1.7	17.90	29.93	39.91	49.88	53.21	66.51
14	0.075	1.900	1.4	14.92	24.94	33.26	41.57	44.34	55.43
15	0.067	1.710	1.3	13.42	22.45	29.93	37.41	39.91	49.89
16	0.060	1.520	1.1	11.93	19.95	26.60	33.26	35.47	44.34

Lámina Rolada en Frío

Calibre	Espesor		Peso		Peso teórico por hoja (kg.)			
	Pulg.	mm.	kg./pie ²	kg./m. ²	3' x 8'	3' x 10'	4' x 8'	4' x 10'
14	0.075	1.900	1.4	14.92	33.26	41.57	44.34	55.43
16	0.060	1.520	1.1	11.93	26.60	33.26	35.47	44.34
18	0.048	1.210	0.9	9.50	21.18	26.47	28.24	35.30
20	0.036	0.910	0.7	7.14	15.93	19.91	21.24	26.55
22	0.030	0.760	0.6	5.97	13.30	16.63	17.74	22.17
24	0.024	0.610	0.4	4.79	10.68	13.35	14.24	17.80
26	0.018	0.450	0.3	3.53	7.88	9.85	10.50	13.13
28	0.015	0.380	0.3	2.98	6.65	8.31	-	-
30	0.012	0.300	0.2	2.36	5.25	6.56	-	-

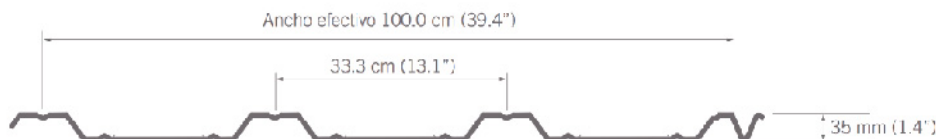
Lámina TR-72 y TR-101 (Zintro, Zintro Alum y Pintro)



Calibre	Espesor nominal acero base pulgadas TR-72 (mm)	Peso aproximado kg/ml TR-72	Peso aproximado kg/m2 TR-72
30	0.0120 (0.3048)	2.440	3.4
28	0.0149 (0.3785)	2.970	4.1
26	0.0179 (0.4547)	3.520	4.9
24	0.0209 (0.5309)	4.060	5.7

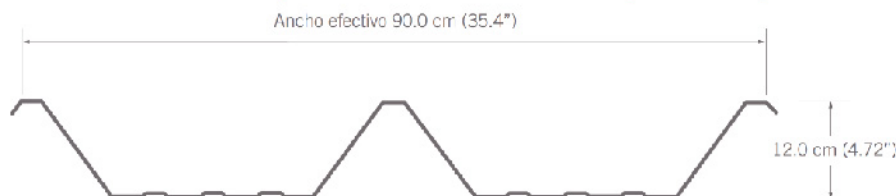
Calibre	Espesor nominal acero base pulgadas TR-101 (mm)	Peso aproximado kg/ml TR-101	Peso aproximado kg/m2 TR-101
28	0.0149 (0.3785)	3.960	3.9
26	0.0179 (0.4547)	4.690	4.6
24	0.0209 (0.5309)	5.420	5.4
22	0.0299 (0.7595)	7.610	7.5

Lámina TRN -100/35 (Zintro, Zintro Alum y Pintro)



Calibre	Espesor nominal acero base pulgadas (mm)	Peso aproximado kg/ml	Peso aproximado kg/m2
26	0.0179 (0.4547)	4.69	4.64
24	0.0209 (0.5309)	5.42	5.37

Lámina TR-90 (Zintro, Zintro Alum y Pintro)



Calibre	Espesor nominal acero base pulgadas (mm)	Peso aproximado kg/ml	Peso aproximado kg/m2
26	0.0179 (0.4547)	4.69	5.21
24	0.0209 (0.5309)	5.42	6.02

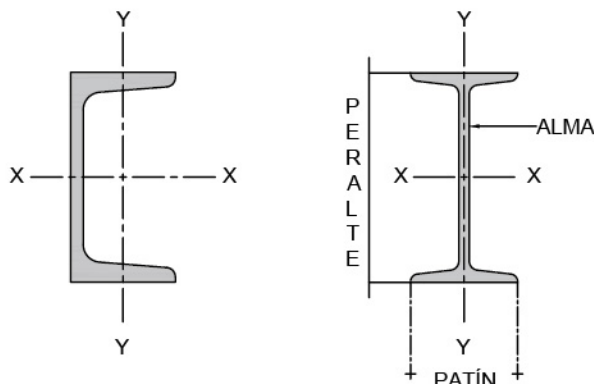
Dimensiones y Pesos Teóricos de Canal CPS y Viga IPS

Canal CPS

Peralte	Peso		Patin		Alma		Eje X - X			Eje Y - Y			Distancia		
			Ancho		Espesor		Espesor		r	S	I	r		S	I
pulg.	kg/m.	lb/pie.	mm	pulg.	mm	pulg.	mm	pulg.	cm	cm3	cm4	cm	cm3	cm4	cm
3"	5.21	3.50	34.85	1.37	6.93	0.27	3.35	0.13	3.06	16.31	62.27	1.03	2.87	7.03	1.04
	6.10	4.10	35.81	1.41	6.93	0.27	4.32	0.17	2.97	17.90	68.10	1.04	3.40	8.30	1.12
4"	6.70	4.50	40.23	1.58	7.52	0.30	3.18	0.13	3.89	25.20	128.12	1.06	2.98	9.53	0.92
	8.04	5.40	40.23	1.58	7.52	0.30	4.67	0.18	3.97	31.10	157.90	1.15	4.70	13.30	1.17
5"	9.97	6.70	44.45	1.75	8.13	0.32	4.83	0.19	-	-	-	-	-	-	-
6"	12.20	8.20	48.77	1.92	8.71	0.34	5.08	0.20	5.94	71.00	541.00	1.38	8.20	29.10	1.32
	15.63	10.50	51.66	2.03	8.71	0.34	7.98	0.31	5.64	82.50	628.50	1.35	9.34	36.21	1.27
	19.35	13.00	54.79	2.16	8.71	0.34	11.10	0.44	5.41	95.00	724.20	1.33	10.52	43.70	1.31
8"	17.11	11.50	57.40	2.26	9.91	0.39	5.59	0.22	7.90	133.40	1,356.90	1.59	12.80	54.94	1.45
	20.46	13.75	59.51	2.34	9.91	0.39	7.70	0.30	759.00	148.00	1,502.60	1.56	13.99	63.68	1.40
	27.90	18.75	64.19	2.53	9.91	0.39	12.37	0.49	7.16	180.30	1,831.40	1.52	16.55	82.41	1.44
10"	22.77	15.30	66.04	2.60	11.07	0.44	6.10	0.24	9.83	221.20	2,805.40	1.81	19.01	94.90	1.61
	29.76	20.00	69.57	2.74	11.07	0.44	9.63	0.38	9.30	258.90	3,284.10	1.76	21.63	116.96	1.54
	37.20	25.00	73.30	2.89	11.07	0.44	13.36	0.53	8.94	298.20	3,796.00	1.72	24.25	139.85	1.57
	44.64	30.00	77.04	3.03	11.07	0.44	17.09	0.67	8.69	339.20	4,287.20	1.70	27.04	164.00	1.65
12"	30.80	20.70	74.73	2.94	12.73	0.50	7.16	0.28	11.71	352.30	5,369.40	2.03	28.35	161.50	1.77
	37.20	25.00	77.39	3.05	12.73	0.50	9.83	0.39	11.25	394.90	5,993.70	1.98	30.81	186.06	1.71
	44.64	30.00	80.52	3.17	12.73	0.50	12.95	0.51	10.90	442.50	6,742.90	1.94	33.76	213.94	1.70
15"	50.45	33.90	86.36	3.40	16.51	0.65	10.16	0.40	-	-	-	-	-	-	-
	59.53	40.00	89.41	3.52	16.51	0.65	13.21	0.52	-	-	-	-	-	-	-

Viga IPS

Peralte	Peso		Patin				Alma		Eje X - X			Eje Y - Y		
			Ancho		Espesor		Espesor		r	S	I	r	S	I
pulg.	kg/m.	lb/pie.	mm	pulg.	mm	pulg.	mm	pulg	cm	cm3	cm4	cm	cm3	cm4
3	8.48	5.70	59.00	2.32	6.60	0.26	4.30	0.17	3.12	103.30	27.10	1.35	6.50	19.10
4	11.46	7.70	67.00	2.64	7.44	0.29	4.90	0.19	4.17	248.30	48.90	1.50	9.50	32.10
5	14.88	10.00	76.30	3.00	8.28	0.33	5.44	0.21	5.21	503.30	79.30	1.65	13.40	51.20
6	18.60	12.50	84.63	3.33	9.12	0.36	5.89	0.23	6.25	906.80	119.00	1.83	18.20	77.00
8	27.38	18.40	101.62	4.00	10.82	0.43	6.88	0.27	8.28	2 397.50	235.97	2.11	30.48	155.25

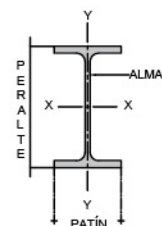


DATOS PARA EL CALCULO DE VIGUERIA PARA BOVEDA DE LADRILLO			
U S O	CARGA MUERTA	CARGA VIVA	F Y
	kg/m ²	kg/m ²	kg/cm ²
Entrepiso	300	250	2530
Azotea	300	150	

TABLA DE CERTIFICACION DE VIGAS PARA CLAROS DETERMINADOS

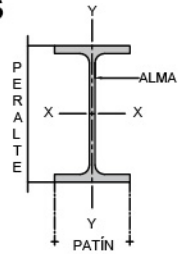
Claro mts.	USO ENTREPISO			USO AZOTEA		
	Separacion entre vigas (mts)			Separacion entre vigas (mts)		
	0.90	1.00	1.10	0.90	1.00	1.10
2.50	4"	4"	4"	4"	4"	4"
3.00	4"	4"	4"	4"	4"	4"
3.20	4"	4"	5"	4"	4"	4"
3.40	4"	5"	5"	4"	4"	4"
3.50	5"	5"	5"	4"	4"	5"
3.60	5"	5"	5"	4"	4"	5"
3.80	5"	5"	5"	4"	5"	5"
4.00	5"	5"	5"	5"	5"	5"
4.20	5"	5"	5"	5"	5"	5"
4.40	5"	6"	6"	5"	5"	5"
4.50	6"	6"	6"	5"	5"	6"
4.60	6"	6"	6"	5"	5"	6"
4.80	6"	6"	6"	6"	6"	6"
5.00	6"	6"	8" L	6"	6"	6"
5.20	6"	8" L	8" L	6"	8" L	8" L
5.40	8" SP	8" SP	8"	8" L	8" L	8" SP
5.60	8" SP	8"	8"	8" L	8" SP	8" SP
5.80	8"	8"	8"	8"	8"	8"
6.00	8"	8"	8"	8"	8"	8"

Dimensiones y Pesos Teóricos de Viga IPR



Designación	Peralte		Peso		Patin			Alma			Eje X - X			Eje Y - Y		
					Ancho		Espesor	Espesor			r	S	I	r	S	I
	pulg.	mm.	kg/m.	lb/pie.	mm	pulg.	mm	pulg.	mm	pulg.	cm	cm3	cm4	cm	cm3	cm4
4" x 4"	4.13	105	19.3	13	103	4.06	8.8	0.35	7.1	0.28	-	-	-	-	-	-
5" x 5"	5.00	127	23.8	16	103	4.06	9.1	0.36	6.1	0.24	-	-	-	-	-	-
	5.16	131	28.1	19	128	5.04	10.9	0.43	6.9	0.27	-	-	-	-	-	-
6" x 4"	5.83	148	12.6	8.5	100	3.94	5	0.20	4.3	0.17	-	-	-	-	-	-
	5.90	150	13.4	9	100	3.94	5.5	0.22	4.3	0.17	6.30	91	683	2.30	18.0	91.00
	6.03	153	17.9	12	102	4.00	7.1	0.28	5.8	0.23	6.30	120	920	2.30	25.0	124.00
	6.28	160	23.8	16	102	4.03	10.3	0.41	6.6	0.26	6.60	167	1,336	2.50	36.0	184.00
6" x 6"	5.99	152	22.3	15	152	5.99	6.6	0.26	5.8	0.23	6.60	160	1,220	3.70	51.0	388.00
	6.20	157	29.8	20	153	6.02	9.3	0.37	6.6	0.26	6.80	220	1,727	3.80	72.0	554.00
	6.38	162	37.2	25	154	6.08	11.6	0.46	8.1	0.32	6.90	275	2,231	3.90	92.0	712.00
8" x 4"	7.89	200	14.9	10	100	3.94	5.2	0.21	4.3	0.17	8.20	128	1,282	2.10	17.0	87.00
	7.99	203	19.3	13	102	4.00	6.5	0.26	5.8	0.23	8.20	162	1,648	2.10	22.0	114.00
	8.11	206	22.3	15	102	4.02	8	0.32	6.2	0.25	8.40	193	1,998	2.20	28.0	142.00
8" x 5 1/4"	8.14	207	26.8	18	133	5.25	8.4	0.33	5.8	0.23	8.70	249	2,576	3.10	50.0	332.00
	8.28	210	31.2	21	134	5.27	10.2	0.40	6.4	0.25	8.90	298	3,134	3.20	61.0	407.00
8" x 6 1/2"	7.93	201	35.7	24	165	6.50	10.2	0.40	6.2	0.25	8.70	342	3,442	4.10	92.0	762.00
	8.06	205	41.7	28	166	6.54	11.8	0.47	7.2	0.29	8.80	398	4,079	4.10	109.0	903.00
	8.00	203	46.1	31	203	8.00	11	0.44	7.2	0.29	8.80	451	4,579	5.10	152	1,544.00
8" x 8"	8.12	206	52.1	35	204	8.02	12.6	0.50	7.9	0.31	8.90	511	5,286	5.20	174.0	1,773.00
	8.25	210	59.5	40	205	8.07	14.2	0.56	9.1	0.36	9.00	582	6,077	5.20	200.0	2,044.00
	8.50	216	71.4	48	206	8.11	17.4	0.69	10.2	0.40	9.20	710	7,659	5.30	246.0	2,535.00
	8.75	222	86.3	58	209	8.22	20.6	0.81	13	0.51	9.30	852	9,490	5.30	300.0	3,126.00
10" x 4"	9.87	251	17.9	12	101	3.96	5.3	0.21	4.8	0.19	9.91	179	2,240	1.99	18.0	91.00
	9.99	254	22.3	15	102	4.00	6.9	0.27	5.8	0.23	10.00	226	2,870	2.06	23.8	120.00
	10.11	257	25.3	17	102	4.01	8.4	0.33	6.1	0.24	10.30	265	3,410	2.15	29.2	148.00
	10.24	260	28.3	19	102	4.02	10	0.40	6.4	0.25	10.50	308	4,010	2.22	35.1	179.00
10" x 5 3/4"	10.17	258	32.7	22	146	5.75	9.1	0.36	6.1	0.24	10.80	380	4,910	3.38	65.1	475.00
	10.33	262	38.7	26	147	5.77	11.2	0.44	6.6	0.26	11.00	457	5,990	3.45	80.1	587.00
	10.47	266	44.6	30	148	5.81	13	0.51	7.6	0.30	11.10	531	7,080	3.48	94.2	695.00
10" x 8"	9.73	247	49.1	33	202	7.96	11	0.44	7.4	0.29	10.60	574	7,076	4.90	151.0	1,523.00
	9.92	252	58	39	203	7.99	13.5	0.53	8	0.32	10.80	690	8,699	5.00	185.0	1,873.00
	10.10	257	67	45	204	8.02	15.7	0.62	8.9	0.35	11.00	805	10,323	5.10	218.0	1,806.00
10" x 10"	9.98	253	72.9	49	254	10.00	14.2	0.56	8.6	0.34	11.00	895	11,321	6.50	306.0	3,888.00
	10.09	256	80.4	54	255	10.03	15.6	0.62	9.4	0.37	11.10	983	12,612	6.50	338.0	4,287.00
	10.22	260	89.3	60	256	10.08	17.3	0.68	10.7	0.42	11.20	1,093	14,193	6.50	377.0	4,828.00
	10.40	264	101	68	257	10.13	19.6	0.77	11.9	0.47	11.30	1,240	16,399	6.60	433.0	5,577.00
12" x 4"	11.91	303	20.8	14	101	3.97	5.7	0.23	5.1	0.20	11.70	244	3,690	1.91	19.5	98.00
	11.99	305	23.8	16	101	3.99	6.7	0.27	5.6	0.22	11.90	280	4,290	1.96	23.1	117.00
	12.16	309	28.3	19	102	4.01	8.9	0.35	6	0.24	12.20	349	5,410	2.09	30.8	157.00
	12.31	313	32.7	22	102	4.03	10.8	0.43	6.6	0.26	12.50	416	6,490	2.15	37.9	194.00
12" x 6 1/2"	12.22	310	38.7	26	165	6.49	9.7	0.38	5.8	0.23	13.10	547	8,490	3.84	87.5	720.00
	12.34	313	44.6	30	166	6.52	11.2	0.44	6.6	0.26	13.20	633	9,910	3.86	102.0	845.00
	12.50	318	52.1	35	167	6.56	13.2	0.52	7.6	0.30	13.30	747	11,900	3.91	122.0	1,020.00
12" x 8"	11.94	303	59.5	40	203	8.01	13.1	0.52	7.5	0.30	13.00	844	12,800	4.93	180.0	1,840.00
	12.06	306	67	45	204	8.05	14.6	0.58	8.5	0.34	13.10	946	14,500	4.95	203.0	2,080.00
	12.19	310	74.4	50	205	8.08	16.3	0.64	9.4	0.37	13.20	1,050	16,300	4.98	228.0	2,340.00
12" x 10"	12.06	306	78.9	53	254	10.00	14.6	0.58	8.8	0.35	13.30	1,157	17,690	6.30	315.0	3,987.00
	12.19	310	86.3	58	254	10.01	16.3	0.64	9.1	0.36	13.40	1,278	19,771	6.40	351.0	4,454.00
	12.12	308	96.7	65	305	12.00	15.4	0.61	9.9	0.39	13.40	1,440	22,185	7.70	477.0	7,242.00
12" x 12"	12.25	311	107	72	306	12.04	17	0.67	10.9	0.43	13.50	1,596	24,849	7.70	531.0	8,116.00
	12.38	314	118	79	307	12.08	18.7	0.74	11.9	0.47	13.60	1,753	27,554	7.70	587.0	8,991.00
	12.71	323	143	96	309	12.16	22.9	0.90	14	0.55	13.80	2,147	34,672	7.80	728.0	11,238.00
14" x 5"	13.74	349	32.7	22	127	5.00	8.5	0.34	5.8	0.23	14.10	475	8,280	2.64	45.9	291.00
	13.91	353	38.7	26	128	5.03	10.7	0.42	6.5	0.26	14.40	578	10,200	2.74	58.2	371.00
14" x 6 3/4"	13.84	352	44.6	30	171	6.73	9.8	0.39	6.9	0.27	14.60	688	12,100	3.78	95.4	816.00
	13.98	355	50.6	34	171	6.75	11.6	0.46	7.2	0.29	14.80	796	14,200	3.89	113.0	970.00
	14.10	358	56.5	38	172	6.77	13.1	0.52	7.9	0.31	14.90	895	16,000	3.94	129.0	1,110.00
14" x 8"	13.66	347	64	43	203	8.00	13.5	0.53	7.7	0.31	14.80	1,030	17,800	4.80	185.0	1,880.00
	13.79	350	71.4	48	204	8.03	15.1	0.60	8.6	0.34	14.90	1,150	20,100	4.85	210.0	2,140.00
	13.92	354	78.9	53	205	8.06	16.8	0.66	9.4	0.37	15.00	1,270	22,500	4.88	234.0	2,400.00
14" x 10"	13.89	353	90.8	61	254	10.00	16.4	0.65	9.5	0.38	15.20	1,511	26,639	6.20	352.0	4,454.00
	14.04	357	101	68	255	10.04	18.3	0.72	10.5	0.42	15.30	1,688	30,093	6.20	397.0	5,036.00
	14.17	360	110	74	256	10.07	19.9	0.79	11.4	0.45	15.30	1,835	33,132	6.30	436.0	5,577.00
	14.31	363	122	82	257	10.13	21.7	0.86	13	0.51	15.40	2,016	36,711	6.30	480.0	6,160.00

Dimensiones y Pesos Teóricos de Viga IPR



Viga IPR (Página 2)

Designación	Peralte		Peso		Patin				Alma		Eje X - X			Eje Y - Y		
					Ancho		Espesor		Espesor		r	S	I	r	S	I
	pulg.	mm.	kg/m.	lb/pie.	mm	pulg.	mm	pulg.	mm	pulg.	cm	cm ³	cm ⁴	cm	cm ³	cm ⁴
14" x 14 1/2"	14.02	356	133.9	90	369	14.52	18	0.71	11.2	0.44	15.60	2,343.00	41,581.00	9.40	818.00	15,068.00
	14.16	360	147.3	99	370	14.57	19.8	0.78	12.3	0.49	15.70	2,573.00	46,202.00	9.40	905.00	16,732.00
	14.32	364	162.2	109	371	14.61	21.8	0.86	13.3	0.53	15.80	2,835.00	51,613.00	9.50	1,003.00	18,605.00
	14.48	368	178.6	120	373	14.67	23.9	0.94	15	0.59	15.80	3,114.00	57,440.00	9.50	1,106.00	20,603.00
14" x 16"	14.66	372	196.4	132	374	14.73	26.2	1.03	16.4	0.65	16.00	3,425.00	63,683.00	9.60	1,221.00	22,809.00
	14.78	375	215.8	145	394	15.50	27.7	1.09	17.3	0.68	16.10	3,802.00	71,175.00	10.10	1,431.00	28,179.00
	14.98	380	236.6	159	395	15.57	30.2	1.19	18.9	0.75	16.20	4,162.00	79,084.00	10.20	1,576.00	31,134.00
	15.22	387	261.9	176	398	15.65	33.3	1.31	21.1	0.83	16.30	4,605.00	89,073.00	10.20	1,753.00	34,880.00
16" x 5 1/2"	15.48	393	287.2	193	399	15.71	36.6	1.44	22.6	0.89	16.50	5,080.00	99,895.00	10.30	1,950.00	38,751.00
	15.69	399	38.7	26	140	5.50	8.8	0.35	6.4	0.25	15.90	629.00	12,500.00	2.84	57.20	399.00
	15.88	403	46.1	31	140	5.53	11.2	0.44	7	0.28	16.30	773.00	15,600.00	2.97	73.60	516.00
	15.86	403	53.6	36	177	6.99	10.9	0.43	7.5	0.30	16.50	926.00	18,600.00	3.86	115.00	1,020.00
16" x 7"	16.01	407	59.5	40	178	7.00	12.8	0.51	7.7	0.31	16.80	1,060.00	21,600.00	3.99	135.00	1,200.00
	16.13	410	67	45	179	7.04	14.4	0.57	8.8	0.35	16.90	1,190.00	24,400.00	3.99	153.00	1,370.00
	16.26	413	74.4	50	180	7.07	16	0.63	9.7	0.38	17.00	1,330.00	27,400.00	4.04	172.00	1,550.00
	16.43	417	84.8	57	181	7.12	18.2	0.72	10.9	0.43	17.10	1,510.00	31,600.00	4.06	198.00	1,790.00
16" x 10 1/4"	16.33	415	99.7	67	260	10.24	16.9	0.67	10	0.40	17.70	1,917.00	39,708.00	6.20	380.00	4,953.00
	16.52	420	114.6	77	261	10.30	19.3	0.76	11.6	0.46	17.80	2,196.00	46,202.00	6.30	441.00	5,744.00
	16.75	425	132.4	89	263	10.37	22.2	0.88	13.3	0.53	17.90	2,540.00	54,110.00	6.30	515.00	6,785.00
	17.70	450	52.1	35	152	6.00	10.8	0.43	7.6	0.30	17.90	944.00	21,200.00	3.10	83.90	637.00
18" x 6"	17.90	455	59.5	40	153	6.02	13.3	0.53	8	0.32	18.30	1,120.00	25,500.00	3.23	104.00	795.00
	18.06	459	68.4	46	154	6.06	15.4	0.61	9.1	0.36	18.40	1,290.00	29,600.00	3.28	122.00	937.00
	17.99	457	74.4	50	190	7.50	14.5	0.57	9	0.36	18.70	1,460.00	33,300.00	4.19	175.00	1,670.00
	18.11	460	81.8	55	191	7.53	16	0.63	9.9	0.39	18.80	1,610.00	37,000.00	4.24	195.00	1,870.00
18" x 7 1/2"	18.24	463	89.3	60	192	7.56	17.7	0.70	10.5	0.42	19.00	1,770.00	41,000.00	4.27	218.00	2,090.00
	18.35	466	96.7	65	193	7.59	19.1	0.75	11.4	0.45	19.00	1,920.00	44,500.00	4.29	236.00	2,280.00
	18.47	469	105.6	71	194	7.64	20.6	0.81	12.6	0.50	19.10	2,080.00	48,700.00	4.32	259.00	2,510.00
	18.21	463	113.1	76	280	11.04	17.3	0.68	10.8	0.43	19.60	2,393.00	56,191.00	6.60	452.00	6,327.00
18" x 11"	18.39	467	128	86	282	11.09	19.6	0.77	12.2	0.48	19.70	2,720.00	64,099.00	6.70	518.00	7,284.00
	18.59	472	144.3	97	283	11.15	22.1	0.87	13.6	0.54	19.90	3,081.00	73,256.00	6.70	592.00	8,366.00
	18.73	476	157.7	106	284	11.20	23.9	0.94	15	0.59	19.90	3,343.00	80,332.00	6.80	646.00	9,157.00
	18.97	482	177.1	119	286	11.27	26.9	1.06	16.6	0.66	20.10	3,785.00	91,571.00	6.80	736.00	10,531.00
21" x 6 1/2"	20.66	525	65.5	44	165	6.50	11.4	0.45	8.9	0.35	20.50	1,337.00	35,255.00	3.20	104.00	862.00
	20.83	529	74.4	50	166	6.53	13.6	0.54	9.7	0.38	20.80	1,549.00	41,165.00	3.30	125.00	1,036.00
	21.06	535	84.8	57	166	6.56	16.5	0.65	10.3	0.41	21.20	1,819.00	48,699.00	3.40	153.00	1,274.00
	20.99	533	92.3	62	209	8.24	15.6	0.62	10.2	0.40	21.70	2,081.00	55,359.00	4.50	228.00	2,393.00
21" x 8 1/4"	21.13	537	101.2	68	210	8.27	17.4	0.69	10.9	0.43	21.80	2,294.00	61,602.00	4.60	257.00	2,693.00
	21.62	549	138.4	93	214	8.42	23.6	0.93	14.7	0.58	22.10	3,146	86,160.00	4.70	362.00	3,867.00
	21.36	543	150.3	101	312	12.29	20.3	0.80	12.7	0.50	22.90	3,720.00	101,560.00	7.30	660.00	10,323.00
	21.51	546	165.2	111	313	12.34	22.2	0.88	14	0.55	23.00	4,080.00	111,966.00	7.40	729.00	11,405.00
21" x 12 1/4"	21.68	551	181.5	122	315	12.39	24.4	0.96	15.2	0.60	23.10	4,474.00	124,037.00	7.40	806.00	12,695.00
	22.06	560	218	147	318	12.51	29.2	1.15	18.3	0.72	-	-	-	-	-	-
	23.57	599	81.8	55	178	7.01	12.8	0.51	10	0.40	23.10	1,901.00	57,024.00	3.40	136.00	1,211.00
	23.74	603	92.3	62	179	7.04	15	0.59	10.9	0.43	23.40	2,163.00	65,348.00	3.50	161.00	1,436.00
24" x 9"	23.73	603	101.2	68	228	8.97	14.9	0.59	10.5	0.42	24.30	2,556.00	77,003.00	4.70	257.00	2,930.00
	23.93	608	113.1	76	228	8.99	17.3	0.68	11.2	0.44	24.60	2,900.00	88,241.00	4.90	302.00	3,434.00
	24.10	612	125	84	229	9.02	19.6	0.77	11.9	0.47	24.90	3,245.00	99,479.00	5.00	342.00	3,929.00
	24.31	617	139.9	94	230	9.07	22.2	0.88	13.1	0.52	25.10	3,671.00	113,215.00	5.00	393.00	4,537.00
24" x 12 3/4"	24.53	623	153.3	103	229	9.00	24.9	0.98	14	0.55	25.30	4,031.00	125,701.00	5.10	434.00	4,953.00
	24.06	611	154.8	104	324	12.75	19.1	0.75	12.7	0.50	25.70	4,261.00	130,280.00	7.40	667.00	10,780.00
	24.26	616	174.1	117	325	12.80	21.6	0.85	14	0.55	25.70	4,801.00	148,178.00	7.50	762.00	12,362.00
	24.48	622	194.9	131	327	12.86	24.4	0.96	15.4	0.61	25.50	5,408.00	168,157.00	7.50	869.00	14,152.00
27" x 10"	24.74	628	217.2	146	328	12.90	27.7	1.09	16.5	0.65	26.20	6,112.00	191,882.00	7.60	991.00	16,275.00
	25.00	635	241.1	162	329	12.96	31	1.22	17.9	0.71	26.40	6,817.00	21,644.00	7.70	1,121.00	18,439.00
	26.71	678	125	84	253	9.96	16.3	0.64	11.7	0.46	27.20	3,490.00	119,874.00	5.30	347.00	4,412.00
	26.92	684	139.9	94	254	9.99	18.9	0.75	12.4	0.49	27.70	3,982.00	137,356.00	5.40	406.00	5,161.00
27" x 10"	27.09	688	151.8	102	254	10.02	21.1	0.83	13.1	0.52	27.90	4,375.00	151,924.00	5.50	456.00	5,786.00
	27.29	693	169.6	114	256	10.07	23.6	0.93	14.5	0.57	27.90	4,900.00	171,071.00	5.50	516.00	6,618.00

Dimensiones y Pesos Teóricos de Viga IPR, Solera y Varilla Corrugada

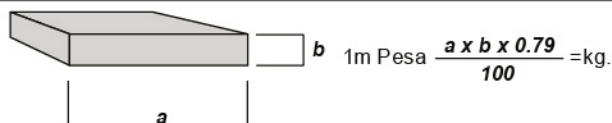
Viga IPR (Página 3)

Designación	Peralte		Peso		Patin				Alma	
	pulg.	mm.	kg/m.	lb/pie.	Ancho		Espesor		Espesor	
					mm	pulg.	mm	pulg.	mm	pulg.
30" x 10 1/2"	29.53	750	133.9	90	264	10.40	15.5	0.61	11.9	0.47
	29.65	753	147.3	99	265	10.45	17	0.67	13.2	0.52
	29.83	758	160.7	108	266	10.48	19.3	0.76	13.8	0.55
	30.01	762	172.6	116	267	10.50	21.6	0.85	14.4	0.57
	30.31	770	196.4	132	268	10.54	25.4	1.00	15.6	0.61
33" x 11 1/2"	32.86	835	175.6	118	292	11.48	18.8	0.74	14	0.55
	33.09	840	193.4	130	292	11.51	21.7	0.86	14.7	0.58
	33.30	846	209.8	141	293	11.54	24.4	0.96	15.4	0.61
	33.49	851	226.2	152	294	11.57	26.8	1.06	16.1	0.64
	33.82	859	251.5	169	292	11.50	31	1.22	17	0.67
36" x 12"	35.55	903	200.9	135	304	11.95	20.1	0.79	15.2	0.60
	35.85	911	223.2	150	304	11.98	23.9	0.94	15.9	0.63
	36.01	915	238.1	160	305	12.00	25.9	1.02	16.5	0.65

Solera

Medida	pulg.	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
	mm.	3.2	4.8	6.4	7.9	9.5	12.7	15.9	19.1	25.4
pulg.	mm.	Peso kg/m								
1/2"	12.7	0.317	0.476	0.634	-	-	-	-	-	-
3/4"	19.1	0.476	0.714	0.952	-	-	-	-	-	-
1"	25.4	0.633	0.950	1.266	-	-	-	-	-	-
1 1/4"	31.8	0.790	1.185	1.580	-	-	-	-	-	-
1 1/2"	38.1	0.950	1.425	1.900	2.375	2.850	3.800	4.750	5.700	-
2"	50.8	1.266	1.899	2.532	3.165	3.798	5.064	6.330	7.596	-
2 1/2"	63.5	1.583	2.375	3.166	3.958	4.749	6.332	7.915	9.498	-
3"	76.2	1.899	2.849	3.798	4.748	5.697	7.596	9.495	11.394	15.192
4"	101.6	2.532	3.798	5.064	6.330	7.596	10.128	12.660	15.192	20.256
5"	120.0	3.165	4.748	6.330	7.913	9.495	12.660	15.825	18.990	25.320
6"	152.0	3.798	5.697	7.596	9.495	11.394	15.192	18.990	22.788	30.384
8"	203.2	5.064	7.596	10.128	12.660	15.192	20.256	25.320	30.384	40.512
10"	254.0	6.330	9.495	12.660	15.825	18.990	25.320	31.650	37.980	50.640
12"	304.8	7.596	11.394	15.192	18.990	22.788	30.384	37.980	45.576	60.768

Indicaciones para calcular pesos de dimensiones diferentes (a y b en mm.)



Varilla Corrugada

Medida			Peso		Área de la Secc. Transversal	Perímetro
pulg.	mm.	Designación	kg/m.	lb/pie.	mm ² .	mm.
3/8"	9.5	3	0.56	0.38	71	29.8
1/2"	12.7	4	0.99	0.67	127	39.9
5/8"	15.9	5	1.55	1.04	198	50
3/4"	19.1	6	2.24	1.5	285	60
1"	25.4	8	3.97	2.67	507	79.8
1 1/4"	31.8	10	6.23	4.3	794	99.9
1 1/2"	38.1	12	8.94	5.99	1140	119.7

Nota: Número de designación corresponde al número de octavos de pulgadas equivalente al diámetro nominal de la varilla.

Dimensiones y Pesos Teóricos de Ángulo, TEE de Fierro, Redondo, Cuadrado y Torcido

Ángulo (Lados Iguales)

Espesor y Dimensiones				Peso	
Pulg.		mm.			
Espesor	Ancho	Espesor	Ancho	kg/m.	lb/pie.
1/8"	3/4	2.77	19.05	0.88	0.59
	1		25.40	1.19	0.8
	1 1/4		31.75	1.50	1.01
	1 1/2		38.10	1.83	1.23
	2		50.80	2.46	1.65
5/32"	1 1/2	3.96	38.00	2.25	1.52
	2		50.80	3.04	2.04
3/16"	1	4.76	25.40	1.73	1.16
	1 1/4		31.75	2.20	1.48
	1 1/2		38.10	2.68	1.8
	2		50.80	3.63	2.44
	2 1/2		63.50	4.57	3.07
	3		76.20	5.52	3.71
1/4"	1	6.35	25.40	2.22	1.49
	1 1/4		31.75	2.86	1.92
	1 1/2		38.10	3.48	2.34
	2		50.80	4.75	3.19
	2 1/2		63.50	6.10	4.1
	3		76.20	7.29	4.9
	3 1/2		88.90	8.63	5.8
	4		101.60	9.82	6.6
5/16"	2	7.94	50.80	5.83	3.92
	2 1/2		63.50	7.44	5
	3		76.20	9.08	6.1
	3 1/2		88.90	10.71	7.2
	4		101.60	12.20	8.2
	5		127.00	15.30	10.3
3/8"	2	9.53	50.80	6.99	4.7
	2 1/2		63.50	8.78	5.9
	3		76.20	10.71	7.2
	4		101.60	14.58	9.8
	5		127.00	18.30	12.3
	6		152.40	22.17	14.9
7/16"	4	11.1	102.00	16.80	11.3
	6		152.00	25.60	17.2
1/2"	3	12.7	76.20	13.99	9.4
	4		101.60	19.05	12.8
	5		127.00	24.11	16.2
	6		152.40	29.17	19.6
	8		203.00	39.30	26.4
5/8"	4	15.88	101.60	23.36	15.7
	6		152.40	36.01	24.2
	8		203.20	48.66	32.7
3/4"	6	19.05	152.40	42.71	28.7
	8		203.20	57.89	38.9
1"	6	25.4	152.40	55.66	37.4

Ángulo (Lados Desiguales)

Espesor y Dimensiones				Peso	
Pulg.		mm.			
Espesor	Medida	Espesor	Medida	kg/m.	lb/pie.
1/4"	3 x 2	6.35	76.2 x 50.8	6.10	4.10
	4 x 3		101.6 x 76.2	8.63	5.80
	5 x 3 1/2		127 x 88.9	15.48	10.40
5/16"	4 x 3	7.90	101.6 x 76.2	10.70	7.20
3/8"	5 x 3 1/2	9.53	127 x 88.9	15.48	10.40
	6 x 4		152.4 x 101.6	18.30	12.30
1/2"	6 x 4	12.70	152.4 x 101.6	24.11	16.20

Tee de Fierro

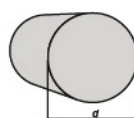
Medida		Peso	
Pulg.	mm.	kg/m.	lb/pie.
1" x 1/8"	25.4 x 3.18	1.32	0.89

Redondo, Cuadrado y Torcido

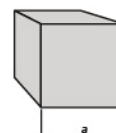
Medidas			Peso					
			Redondo		Cuadrado		Torcido	
Pulg.	Milésimas	mm.	kg/m.	lb/pie.	kg/m.	lb/pie.	kg/m.	lb/pie.
12 mm	0.472	12.00	-	-	1.14	0.77	-	-
3/8"	0.375	9.53	0.56	0.38	0.71	0.48	0.71	0.48
1/2"	0.500	12.70	0.99	0.67	1.26	0.85	1.26	0.85
5/8"	0.625	15.88	1.55	1.04	1.98	1.33	1.98	1.33
3/4"	0.750	19.05	2.24	1.50	2.85	1.91	-	-
7/8"	0.875	22.23	3.04	2.04	-	-	-	-
1"	1.000	25.40	3.97	2.67	5.06	3.40	-	-
1 1/8"	1.125	28.58	5.03	3.38	-	-	-	-
1 1/4"	1.250	31.75	6.21	4.17	7.91	5.31	-	-
1 3/8"	1.375	34.93	7.51	5.05	-	-	-	-
1 1/2"	1.500	38.10	8.94	6.01	11.38	7.65	-	-
1 3/4"	1.750	44.45	12.17	8.18	-	-	-	-
1 7/8"	1.875	47.63	13.97	9.39	-	-	-	-
2"	2.000	50.80	15.90	10.68	20.24	13.60	-	-
2 1/4"	2.250	57.15	20.12	13.52	-	-	-	-
2 1/2"	2.500	63.50	24.84	16.69	31.62	21.25	-	-
3"	3.000	76.20	35.76	24.04	45.54	30.60	-	-

*El peso por pieza corresponde a un tramo de 6.1m de longitud.

Indicaciones para calcular pesos de dimensiones diferentes
(a y d en mm.)



$$1m \text{ Pesa } \frac{d \times d \times 0.62}{100} = kg.$$



$$1m \text{ Pesa } \frac{a \times a \times 0.79}{100} = kg.$$

Dimensiones y Pesos Teóricos de PTR Cuadrado

Medidas		Calibre y Color	Espesor		Longitud	Peso
pulg.	mm.		pulg.	mm.	m.	kg/m.
3/4	19.05	14	0.075	1.90	6.00	1.06
1	25.4	14	0.075	1.90	6.00	1.46
		13	0.090	2.28	6.00	1.66
		12	0.105	2.67	6.00	1.95
		11	0.120	3.04	6.00	1.97
		10	0.135	3.42	6.00	2.13
1 1/4	31.8	14	0.075	1.90	6.00	1.85
		13	0.090	2.28	6.00	2.01
		12	0.105	2.67	6.00	1.95
		11	0.120	3.04	6.00	1.97
1 1/2	38.1	10	0.135	3.42	6.00	3.20
		14	0.075	1.90	6.00	2.24
		12	0.105	2.67	6.00	3.07
		11	0.120	3.04	6.00	3.16
1 3/4	44.5	10	0.135	3.42	6.00	3.49
		9	0.150	3.81	6.00	3.81
		14	0.075	1.90	6.00	2.64
		13	0.090	2.28	6.00	2.92
2	50.8	12	0.105	2.67	6.00	3.46
		10	0.135	3.42	6.00	4.36
		14	0.075	1.90	6.00	3.03
		12	0.105	2.67	6.00	4.17
		11	0.120	3.04	6.00	4.38
		10	0.135	3.42	6.00	4.86
2 1/4	57.2	9	0.150	3.81	6.00	5.33
		3/16"	0.188	4.76	6.00	6.43
		1/4"	0.250	6.35	6.00	8.04
		14	0.075	1.90	6.00	3.15
2 1/2	63.5	12	0.105	2.67	6.00	4.47
		11	0.120	3.04	6.00	4.97
		10	0.135	3.42	6.00	5.63
		14	0.075	1.90	6.00	3.82
3	76.2	12	0.105	2.67	6.00	5.27
		11	0.120	3.04	6.00	5.59
		10	0.135	3.42	6.00	6.22
		9	0.150	3.80	6.00	6.76
		8	0.164	4.18	6.00	7.44
		7	0.179	4.55	6.00	8.00
		3/16"	0.188	4.76	6.10	8.33
3 1/2	88.9	1/4"	0.250	6.35	6.10	10.57
		5	0.209	5.31	6.00	15.63
		3/16"	0.188	4.76	6.10	12.14
		7	0.179	4.55	6.00	11.62
		8	0.164	4.18	6.00	10.76
		9	0.150	3.80	6.00	9.75
		10	0.135	3.42	6.00	8.89
		11	0.120	3.04	6.00	8.02
4	101.6	14	0.075	1.90	6.00	5.11
		10	0.135	3.42	6.00	10.24
		9	0.150	3.80	6.00	11.25
		8	0.164	4.18	6.00	12.44
		7	0.179	4.55	6.00	13.44
		3/16"	0.188	4.76	6.10	14.04
		5	0.209	5.31	6.00	16.19
		1/4"	0.250	6.35	6.00	18.16
4 1/2	114.3	14	0.075	1.90	6.00	6.19
		11	0.120	3.04	6.00	9.23
		10	0.135	3.42	6.00	10.24
		9	0.150	3.80	6.00	11.52
		8	0.164	4.18	6.00	13.02
		7	0.179	4.55	6.00	14.03
		3/16"	0.188	4.76	6.10	15.90
		5	0.209	5.31	6.00	18.40
5	127.0	1/4"	0.250	6.35	6.10	20.67
		14	0.075	1.90	6.00	6.63
		11	0.120	3.04	6.00	10.24
		10	0.135	3.42	6.00	11.52
		9	0.150	3.80	6.00	13.02
		8	0.164	4.18	6.00	14.03
		7	0.179	4.55	6.00	15.90
		3/16"	0.188	4.76	6.10	17.85

Medidas		Calibre y Color	Espesor		Longitud	Peso
pulg.	mm.		pulg.	mm.	m.	kg/m.
3	76.2	14	0.075	1.90	6.00	4.61
		12	0.105	2.67	6.10	6.38
		11	0.120	3.04	6.00	6.80
		10	0.135	3.42	6.00	7.54
		9	0.150	3.80	6.00	8.26
		8	0.164	4.18	6.00	9.10
		7	0.179	4.55	6.00	9.81
		3/16"	0.188	4.76	6.10	10.24
3 1/2	88.9	1/4"	0.250	6.35	6.10	13.10
		14	0.075	1.90	6.00	5.11
		11	0.120	3.04	6.00	8.02
		10	0.135	3.42	6.00	8.89
		9	0.150	3.80	6.00	9.75
		8	0.164	4.18	6.00	10.76
		7	0.179	4.55	6.00	11.62
		3/16"	0.188	4.76	6.10	12.14
4	101.6	5	0.209	5.31	6.00	15.63
		1/4"	0.250	6.35	6.10	18.16
		14	0.075	1.90	6.00	6.19
		11	0.120	3.04	6.00	9.23
		10	0.135	3.42	6.00	10.24
		9	0.150	3.80	6.00	11.25
		8	0.164	4.18	6.00	12.44
		7	0.179	4.55	6.00	13.44
4 1/2	114.3	3/16"	0.188	4.76	6.10	14.04
		5	0.209	5.31	6.00	16.19
		1/4"	0.250	6.35	6.10	18.16
		14	0.075	1.90	6.00	6.63
		11	0.120	3.04	6.00	10.24
		10	0.135	3.42	6.00	11.52
		9	0.150	3.80	6.00	13.02
		8	0.164	4.18	6.00	14.03
5	127.0	3/16"	0.188	4.76	6.10	15.90
		5	0.209	5.31	6.00	18.40
		1/4"	0.250	6.35	6.10	20.67
		14	0.075	1.90	6.00	7.39
		11	0.120	3.04	6.00	12.13
		10	0.135	3.42	6.00	13.18
		9	0.150	3.80	6.00	14.22
		8	0.164	4.18	6.00	16.13



Dimensiones y Pesos Teóricos de PTR Rectangular.

PTR (Rectangulares)

Medidas		Calibre	Espesor		Longitud	Peso
pulg.	mm.		pulg.	mm.	m.	kg/m.
2 x 1	50.8 x 25.4	14	0.075	1.90	6.00	2.24
		11	0.120	3.04	6.10	3.16
2 1/2 x 1 1/2	63.5 x 38.1	14	0.075	1.90	6.00	3.03
		12	0.105	2.67	6.00	4.16
3 x 1 1/2	76.2 x 38.1	14	0.075	1.90	6.00	3.43
3 x 2	76.2 x 50.8	14	0.075	1.90	6.00	3.82
		11	0.120	3.04	6.00	5.59
		10	0.135	3.42	6.00	6.22
		9	0.150	3.80	6.10	6.75
		8	0.164	4.18	6.00	7.44
		7	0.179	4.55	6.00	8.00
		3/16"	0.188	4.76	6.10	8.33
4 x 1 1/2	101.6 x 38.1	14	0.075	1.90	6.00	4.22
4 x 2	101.6 x 50.8	14	0.075	1.90	6.00	4.61
		11	0.120	3.04	6.00	6.81
		9	0.150	3.80	6.00	8.26
		8	0.164	4.18	6.00	9.10
		7	0.179	4.55	6.00	9.81
		3/16"	0.188	4.76	6.10	10.24
		1/4"	0.250	6.35	6.10	13.10
4 x 3	101.6 x 76.2	14	0.075	1.90	6.00	5.40
		11	0.120	3.04	6.00	8.02
		10	0.135	3.42	6.10	8.89
		9	0.150	3.80	6.00	9.75
		8	0.164	4.18	6.00	10.76
		7	0.179	4.55	6.00	11.62
		5	0.209	5.31	6.00	13.97
		3/16"	0.188	4.76	6.10	12.14
		1/4"	0.250	6.35	6.10	15.63
5 x 3	127 x 76.2	14	0.075	1.90	6.10	5.87
		11	0.120	3.04	6.10	9.60
		10	0.135	3.42	6.10	10.24
		9	0.150	3.80	6.10	11.24
		8	0.164	4.18	6.10	12.44
		3/16"	0.188	4.76	6.10	14.00
		5	0.209	5.31	6.10	16.19
		1/4"	0.250	6.35	6.10	18.15
6 x 2	152.4 x 50.8	14	0.075	1.90	6.10	5.87
		11	0.120	3.04	6.10	9.60
		10	0.135	3.42	6.10	10.24
		9	0.150	3.80	6.10	11.24
		8	0.164	4.18	6.10	12.44
		3/16"	0.188	4.76	6.10	14.00
		5	0.209	5.31	6.10	16.19
		1/4"	0.250	6.35	6.10	18.15
6 x 3	152.4 x 76.2	14	0.075	1.90	6.10	6.63
		11	0.120	3.04	6.10	10.24
		10	0.135	3.42	6.10	11.52
		9	0.150	3.80	6.10	13.02
		8	0.164	4.18	6.10	14.03
		3/16"	0.188	4.76	6.10	15.90
		5	0.209	5.31	6.10	18.40
		1/4"	0.250	6.35	6.10	20.67
6 x 4	152.4 x 101.6	14	0.075	1.90	6.10	7.39
		11	0.120	3.04	6.00	11.66
		10	0.135	3.42	6.10	13.18
		9	0.150	3.80	6.10	14.22
		8	0.164	4.18	6.10	16.13
		3/16"	0.188	4.76	6.10	17.85
		5	0.209	5.31	6.10	20.66
		1/4"	0.250	6.35	6.10	23.22

Dimensiones y Pesos Teóricos de HSS Cuadrado Y Rectangular.

Medidas		Espesor		Peso
pulg.	mm.	pulg.	mm.	kg/m.
6 X 6	152.4 X 152.4	3/16	4.76	21.62
		1/4	6.35	28.31
		5/16	7.94	34.73
		3/8	9.53	40.90
		1/2	12.70	52.44
8 X 4	203.2 X 101.6	3/16	4.76	21.62
		1/4	6.35	28.31
		5/16	7.94	34.73
		3/8	9.53	40.90
		1/2	12.70	52.44
8 X 6	203.2 X 152.4	3/16	4.76	25.42
		1/4	6.35	33.37
		5/16	7.94	41.07
		3/8	9.53	48.48
		1/2	12.70	62.58
8 X 8	203.2 X 203.2	3/16	4.76	29.21
		1/4	6.35	38.42
		5/16	7.94	47.38
		3/8	9.53	56.09
		1/2	12.70	72.70
10 X 4	254 X 101.6	5/8	15.88	88.28
		3/16	4.76	25.42
		1/4	6.35	33.36
		5/16	7.94	41.06
		3/8	9.53	48.48
10 X 6	254 X 152.4	1/2	12.70	62.58
		3/16	4.76	29.21
		1/4	6.35	38.42
		5/16	7.94	47.38
		3/8	9.53	56.09
10 X 8	254 X 203.2	1/2	12.70	72.70
		3/16	4.76	33.01
		1/4	6.35	43.50
		5/16	7.94	53.72
		3/8	9.53	63.68
10 X 10	254 X 254	1/2	12.70	82.83
		3/16	4.76	36.80
		1/4	6.35	48.56
		5/16	7.94	60.05
		3/8	9.53	71.28

Medidas		Espesor		Peso
pulg.	mm.	pulg.	mm.	kg/m.
12 X 4	304.8 X 101.6	3/16	4.76	29.21
		1/4	6.35	38.42
		5/16	7.94	47.38
		3/8	9.53	56.09
		1/2	12.70	72.70
12 X 6	304.8 X 152.4	3/16	4.76	33.01
		1/4	6.35	43.50
		5/16	7.94	53.72
		3/8	9.53	63.68
		1/2	12.70	82.83
12 X 8	304.8 X 203.2	3/16	4.76	36.80
		1/4	6.35	48.56
		5/16	7.94	60.05
		3/8	9.53	71.28
		1/2	12.70	92.95
12 X 12	304.8 X 304.8	5/8	15.88	113.59
		1/4	6.35	58.68
		5/16	7.94	72.71
		3/8	9.53	86.46
		1/2	12.70	113.20
14 X 6	355.6 X 152.4	5/8	15.88	138.90
		5/16	7.94	60.05
		3/8	9.53	71.28
14 X 10	355.6 X 254	1/2	12.70	92.95
		5/16	7.94	72.71
		3/8	9.53	86.46
14 X 14	355.6 X 355.6	1/2	12.70	113.20
		5/16	7.94	85.36
		3/8	9.53	101.66
		1/2	12.70	133.46
16 X 2	406.4 X 304.8	5/8	15.88	164.23
		5/16	7.94	85.36
		3/8	9.53	101.66
16 X 16	406.4 X 406.4	1/2	12.70	133.46
		5/16	7.94	98.03
		3/8	9.53	116.85
		1/2	12.70	153.50



Dimensiones y Pesos Teóricos de Polín Monten.

Medidas pulg.	Calibre	Longitud Estándar m.	Peso kg/m.
3 x 1 1/2	12	6	3.60
3 x 1 1/2 *	14	6	2.61
3 x 1 1/2	16	6	2.08
4 x 1 1/2	10	6	5.20
4 x 1 1/2	12	6	4.20
4 x 1 1/2	14	6	3.00
4 x 1 1/2	16	6	2.40
4 x 2	10	4, 5 y 6	5.90
4 x 2	12	4, 5 y 6	4.80
4 x 2 *	14	4, 5 y 6	3.40
4 x 2	16	4, 5 y 6	2.71
5 x 2	10	5 y 6	6.60
5 x 2	12	5 y 6	5.30
5 x 2 *	14	5 y 6	3.80
5 x 2	16	5 y 6	3.00
6 x 2	10	6	7.30
6 x 2	12	6	5.86
6 x 2 *	14	6	4.19
6 x 2	16	6	3.30
7 x 2 3/4	10	7	9.20
7 x 2 3/4	12	7	7.40
7 x 2 3/4	14	7	5.30
7 x 2 3/4	16	7	4.20
8 x 2 3/4	10	8	9.90
8 x 2 3/4	12	8	7.96
8 x 2 3/4 *	14	6 y 8	5.70
8 x 2 3/4	16	8	4.50
9 x 2 3/4	10	9	10.60
9 x 2 3/4	12	9	8.50
9 x 2 3/4	14	9	6.10
9 x 2 3/4	16	9	4.90
10 x 2 3/4	10	10	11.23
10 x 2 3/4	12	10	9.06
10 x 2 3/4 *	14	10	6.49
10 x 2 3/4	16	10	5.20
12 x 3 1/2	10	12	13.62
12 x 3 1/2	12	12	10.99
12 x 3 1/2 *	14	12	7.87
14 x 3 1/2	10	14	14.98
14 x 3 1/2	12	14	12.10
14 x 3 1/2	14	14	8.66

*Medidas mas comerciales en Polín Monten.

Cuadrados y Rectangulares

Medida		Calibre	Peso	
Pulgadas	Milímetros		Kg/m.	Kg/Pza.
1/2" x 1/2"	12.7 x 12.7	18	0.468	2.810
1/2" x 1/2"	12.7 x 12.7	20	0.352	2.110
3/4" x 3/4"	19 x 19	18	0.667	4.000
3/4" x 3/4"	19 x 19	20	0.525	3.150
1" x 1"	25.4	18	0.933	5.600
1" x 1"	25.4	20	0.717	4.300
1 1/4" x 1 1/4"	31.8 x 31.8	18	1.210	7.260
1 1/4" x 1 1/4"	31.8 x 31.8	20	0.910	5.460
1 1/2" x 1 1/2"	38.1 x 38.1	18	1.467	8.800
1 1/2" x 1 1/2"	38.1 x 38.1	20	1.098	6.590
1 3/4" x 1 3/4"	44.5 x 44.5	18	1.708	10.250
1 3/4" x 1 3/4"	44.5 x 44.5	20	1.282	7.690
2" x 2"	50.8 x 50.8	18	1.952	11.710
2" x 2"	50.8 x 50.8	20	1.463	8.780
1" x 1/2"	25.4 x 12.7	18	0.717	4.300
1" x 1/2"	25.4 x 12.7	20	0.550	3.300
3/4" x 1 1/4"	19 x 31.8	18	0.950	5.700
3/4" x 1 1/4"	19 x 31.8	20	0.717	4.300
1 1/2" x 1/2"	38.1 x 12.7	18	0.933	5.600
1 1/2" x 1/2"	38.1 x 12.7	20	0.700	4.200
1 1/2" x 1"	38.1 x 25.4	18	1.233	7.400
1 1/2" x 1"	38.1 x 25.4	20	0.933	5.600
1 3/4" x 3/4"	44.5 x 19	18	0.950	5.700
1 3/4" x 3/4"	44.5 x 19	20	0.717	4.300
2" x 1"	50.8 x 25.4	18	1.433	8.600
2" x 1"	50.8 x 25.4	20	1.083	6.500
2 1/4" x 3/4"	57.2 x 19	18	1.500	9.000
2 1/4" x 3/4"	57.2 x 19	20	1.100	6.600
2 1/2" x 1 1/4"	63.5 x 31.8	18	1.400	8.400
2 1/2" x 1 1/4"	63.5 x 31.8	20	1.750	10.500
2 1/2" x 1 1/2"	63.5 x 38.1	18	1.900	11.400
2 1/2" x 1 1/2"	63.5 x 38.1	20	1.433	8.600
3" x 1 1/2"	76.2 x 38.1	18	2.167	13.000
3" x 1 1/2"	76.2 x 38.1	20	1.633	9.800
4" x 1 1/2"	101.6 x 38.1	18	2.700	16.200
4" x 1 1/2"	101.6 x 38.1	20	1.950	11.700

Figuras

Descripción	Calibre	Peso	
		Kg/m.	Kg/Pza.
Riel Portón Ligero	18	1.217	7.300
Riel Portón Pesado	14	2.950	17.700
MH-25	18	1.633	9.800
MH-40	18	1.867	11.200
MH-50	18	2.117	12.700
MH-60	18	2.483	14.900
MH-75	18	2.600	15.600
R-25	18	1.317	7.900
R-40	18	1.567	9.400
R-50	18	1.817	10.900
R-60	18	2.050	12.300
R-75	18	2.283	13.700
R-100	18	2.783	16.700
Zeta	18	1.450	8.700
Tee	18	1.400	8.400
Traslape	18	1.750	10.500
Traslape Jr.	18	1.217	7.300
Pasamanos Liso	18	1.417	8.500
Pasamanos Joroba	18	1.417	8.500
Duela Doble	20	1.250	7.500
Duela Sencilla	20	0.867	5.200

Tablero

Medida		Calibre	Peso
Pies	Metros		
3' x 3'	.91 x .91	20	6.00
3' x 6'	.91 x 1.83	20	12.00
3' x 8'	.91 x 2.44	20	15.90
3' x 10'	.91 x 3.05	20	19.90

Tubo Pared Delgada

Medida	Calibre	Peso	
		Kg/m.	Kg/Pza.
1/2"	18	0.381	2.300
1/2"	20	0.862	5.200
3/4"	18	0.713	4.300
3/4"	20	0.531	3.200
1"	18	0.746	4.500
1"	20	0.580	3.500
1 1/4"	18	1.144	6.900
1 1/4"	20	0.713	4.300
1 1/2"	18	1.370	8.260
1 1/2"	20	0.862	5.200
2"	18	1.493	9.000
2"	20	1.144	6.900



Factores de Conversión de Unidades

Espesor / Calibre

N°

Espesor

Milímetros

E.	4 1/2" (4.5")	114.3
E.	4" (4")	101.6
E.	3 1/2" (3.5")	88.9
E.	3" (3")	76.2
E.	2 1/2" (2.5")	63.5
E.	2" (2")	50.8
E.	1 3/4" (1.75")	44.45
E.	1 1/2" (1.5")	38.1
E.	1 1/8" (1.125")	28.575

E.	1" (1")	25.4
E.	15/16" (0.9375")	23.8125
E.	7/8" (0.875")	22.225
E.	13/16" (0.8125")	20.6375
E.	3/4" (0.75")	19.05
E.	11/16" (0.6875")	17.4625
E.	5/8" (0.625")	15.875
E.	9/16" (0.5625")	14.2875
E.	1/2" (0.5")	12.7
E.	7/16" (0.4375")	11.1125
E.	3/8" (0.375")	9.525
E.	5/16" (0.3125")	7.9375
E.	1/4" (0.25")	6.35
Cal.	3 (0.2391")	6.07314
Cal.	4 (0.2242")	5.69468
Cal.	5 (0.2092")	5.31368
Cal.	6 (0.1943")	4.93522
E.	3/16" (0.1875")	4.7625
Cal.	7 (0.1793")	4.55422
Cal.	8 (0.1644")	4.17576
E.	5/32" (0.1562")	3.96748
Cal.	9 (0.1495")	3.7973
Cal.	10 (0.1345")	3.4163
E.	1/8" (0.125")	3.175
Cal.	11 (0.1196")	3.03784
Cal.	12 (0.1046")	2.65684
Cal.	13 (0.0897")	2.27838
Cal.	14 (0.0747")	1.89738
Cal.	15 (0.0673")	1.70942
E.	1/16" (0.0625")	1.5875
Cal.	16 (0.0598")	1.51892
Cal.	17 (0.0538")	1.36652
Cal.	18 (0.0478")	1.21412
Cal.	19 (0.0418")	1.06172
Cal.	20 (0.0359")	0.91186
Cal.	21 (0.0329")	0.83566
Cal.	22 (0.0299")	0.75946
Cal.	23 (0.0269")	0.68326
Cal.	24 (0.0239")	0.60706
Cal.	25 (0.0209")	0.53086
Cal.	26 (0.0179")	0.45466
Cal.	27 (0.0164")	0.41656
Cal.	28 (0.0149")	0.37846
Cal.	29 (0.0135")	0.3429
Cal.	30 (0.012")	0.3048
Cal.	31 (0.0105")	0.2667

*E. Espesor
Cal. Calibre

UNIDADES DE LONGITUD

ES IGUAL	mm	cm	m	km	pulg	pie	yarda	milla
1 milímetro a	1	0.10	0.001	0.000001	0.03937	0.0032808	0.001094	0.0000062137
1 centímetro a	10	1	0.01	0.00001	0.3937	0.0328083	0.010936	0.000062137
1 metro a	1000	100	1	0.001	39.37	3.28083	1.0936	0.00062137
1 kilómetro a	1.000.000	100.000	1.000	1	39370	3280.83	1093.6	0.62137
1 pulgada a	25.4	2.54	0.0254	0.0000254	1	0.08333	0.027778	0.000016
1 pie a	304.8	30.48	0.3048	0.0003048	12	1	0.3333	0.0001894
1 yarda a	914.402	91.4402	0.914402	0.0009144	36	3	1	0.0005682
1 milla a	1.609.350	160.935	1.609.35	1.60935	63.360	5.28	1.760	1

UNIDADES DE PESO

ES IGUAL	gr	kg	tm	oz	lb	tl
1 gramo	1	0.001	0.000001	0.03527	0.002205	0.00000098
1 kilogramo	1,000	1	0.001	35.27	2.205	0.0009842
1 tonelada métrica a	1'000,000	1,000	1	35.270	2,205	0.9842
1 onza a	28.35	0.02835	2.835E-05	1	0.0625	0.000028
1 libra a	453.6	0.4536	0.0004536	16	1	0.000446
1 tonelada larga a	1.016.050	1016.05	1.01605	35.836	2.24	1

UNIDADES DE AREA

ES IGUAL	mm²	cm²	m²	pulg²	pie²	yd²
1 milímetro cuadrado a	1	0.01	0.000001	0.00155	0.0000108	0.0000012
1 centímetro cuadrado a	100	1	0.001	0.155	0.00108	0.00012
1 metro cuadrado a	1'000,000	10,000	1	1,550	10.76	1.196
1 pulgada cuadrada a	645.16	6.4516	0.0006452	1	0.006944	0.000772
1 pie cuadrado a	92,903.04	929.0304	0.0929	144	1	0.11111
1 yarda cuadrada a	836,131.02	8,361.31	0.8361	1,296	9	1

UNIDADES DE VOLUMEN

ES IGUAL	cm³	dm³	m³	pulg³	pie³	galón
1 centímetro cúbico a	1	0.001	0.000001	0.06102	3.531E-05	0.00026417
1 decímetro cúbico (1 litro) a	1,000	1	0.001	61.02	0.03531	0.26417
1 metro cúbico a	1'000,000	1,000	1	61.020	35.31	264.17
1 pulgada cúbica a	16.39	0.01639	1.639E-05	1	0.0005787	0.004329
1 pie cúbico a	28,316.85	28.31685	0.0283169	1.728	1	7.48055
1 galón E.U. (líquido) a	3,785.43	3.78543	0.0037854	231	0.133663	1

PESO POR UNIDAD DE LONGITUD

ES IGUAL	kg/m	lb/pie
1 kilogramo por metro a	1	0.67197
1 libra por pie a	1.48816	1

PESO POR UNIDAD DE SUPERFICIE (ESFUERZOS)

ES IGUAL	kg/cm²	Mpa	lb/pulg²
1 kilogramo x cm² a	1	0.0981	14.2234
1 megapascal a	10.1937	1	144.99
1 libra x pilg²	0.07031	0.006897	1



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