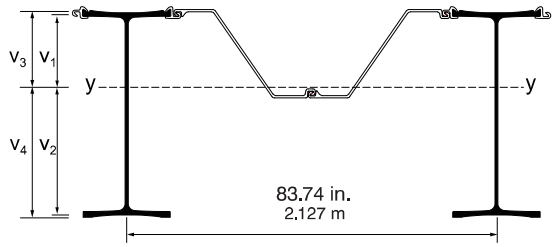
MUROS COMBINADOS HZ®-M

MUROS COMBINADOS HZ®-M / AZ®

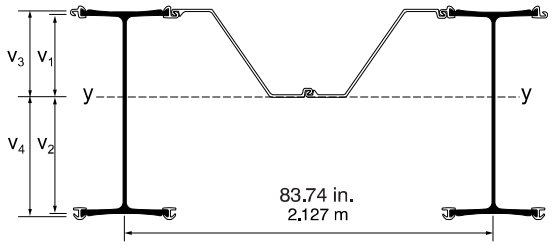
Combinación HZ...M-12 / AZ 18-800



SECCIÓN	PROPIEDADES POR METRO DE MURO				PESO DE LA COMBINACIÓN CON TABLESTACA INTERMEDIA				
					*** AZ 18-800			ÁREA DE RECUBRIMIENTO	
	Área de Sección in²/ft cm²/m	Momento de Inercia in⁴/ft **cm⁴/m**	*Módulo de Sección Elástico in³/ft **cm³/m**	**Módulo de Sección Elástico in³/ft **cm³/m**	£AZ = 60% £HZ lb/ft² **kg/m²**	£AZ = 80% £HZ lb/ft² **kg/m²**	£AZ = £HZ lb/ft² **kg/m²**	Lado Agua ft²/ft **m²/m**	Lado Tierra ft²/ft **m²/m**
HZ 630M	12.55 **265.7**	1,112.0 **151,850**	83.0 **4,465**	93.0 **5,000**	35.13 **172**	38.93 **190**	42.72 **209**	8.73 **2.660**	15.11 **4.605**
HZ 880M A	11.97 **253.4**	1,641.1 **224,100**	93.2 **5,010**	106.7 **5,740**	33.28 **162**	37.01 **181**	40.74 **199**	8.85 **2.699**	16.72 **5.095**
HZ 880M B	12.68 **268.3**	1,763.9 **240,880**	100.7 **5,415**	113.5 **6,100**	35.69 **174**	39.42 **192**	43.14 **211**	8.86 **2.702**	16.72 **5.097**
HZ 880M C	13.00 **275.1**	1,847.3 **252,260**	105.4 **5,665**	118.4 **6,365**	36.78 **180**	40.51 **198**	44.23 **216**	8.86 **2.702**	16.72 **5.097**
HZ 1080M A	13.69 **289.8**	2,964.2 **404,780**	131.7 **7,080**	147.7 **7,940**	39.12 **191**	42.86 **209**	46.59 **227**	8.84 **2.695**	18.15 **5.533**
HZ 1080M B	14.20 **300.6**	3,188.2 **435,370**	141.6 **7,615**	157.9 **8,490**	40.86 **200**	44.60 **218**	48.33 **236**	8.84 **2.696**	18.15 **5.533**
HZ 1080M C	15.12 **320.1**	3,458.0 **472,210**	153.9 **8,270**	169.9 **9,135**	44.00 **215**	47.73 **233**	51.47 **251**	8.85 **2.697**	18.16 **5.535**
HZ 1080M D	15.87 **335.9**	3,721.3 **508,160**	165.2 **8,880**	181.9 **9,780**	46.55 **227**	50.28 **245**	54.01 **264**	8.85 **2.698**	18.16 **5.535**
HZ 1180M A	16.47 **348.6**	3,919.2 **535,180**	173.4 **9,320**	190.9 **10,260**	48.58 **237**	52.31 **255**	56.04 **274**	8.85 **2.699**	18.16 **5.536**
HZ 1180M B	16.85 **356.6**	4,092.7 **558,890**	181.1 **9,735**	198.5 **10,675**	49.88 **244**	53.61 **262**	57.34 **280**	8.86 **2.700**	18.18 **5.540**
HZ 1180M C	17.59 **372.3**	4,347.6 **593,690**	191.0 **10,270**	210.5 **11,315**	52.26 **255**	56.06 **274**	59.85 **292**	8.90 **2.713**	18.20 **5.549**
HZ 1180M D	18.17 **384.7**	4,548.1 **621,070**	200.5 **10,780**	218.6 **11,750**	54.26 **265**	58.05 **283**	61.85 **302**	8.92 **2.719**	18.22 **5.554**

* Respecto al exterior del patín de la HZ®-M (v_2), ** Respecto al exterior del conector (v_3), *** Largo de conectores = Largo de la AZ.

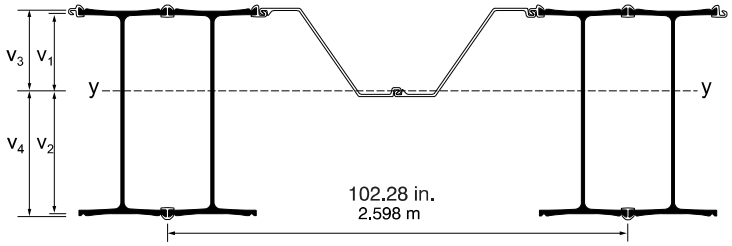
Combination HZ...M-14 / AZ 18-800



SECCIÓN	PROPIEDADES POR METRO DE MURO				PESO DE LA COMBINACIÓN CON TABLESTACA INTERMEDIA				
					*** AZ 18-800			ÁREA DE RECUBRIMIENTO	
	Área de Sección in²/ft cm²/m	Momento de Inercia in⁴/ft **cm⁴/m**	*Módulo de Sección Elástico in³/ft **cm³/m**	**Módulo de Sección Elástico in³/ft **cm³/m**	£AZ = 60% £HZ lb/ft² **kg/m²**	£AZ = 80% £HZ lb/ft² **kg/m²**	£AZ = £HZ lb/ft² **kg/m²**	Lado Agua ft²/ft **m²/m**	Lado Tierra ft²/ft **m²/m**
HZ 630M	13.39 **283.3**	1,243.7 **169,840**	102 .5 **5,510**	93.9 **5,045**	36.72 **179**	41.14 **201**	45.55 **222**	8.73 **2.660**	16.03 **4.886**
HZ 880M A	12.79 **270.8**	1,872.7 **255,730**	118 .2 **6,355**	108.9 **5,855**	34.87 **170**	39.20 **191**	43.54 **213**	8.85 **2.699**	17.49 **5.331**
HZ 880M B	13.49 **285.6**	1,991.2 **271,910**	125 .1 **6,725**	115.8 **6,225**	37.25 **182**	41.58 **203**	45.92 **224**	8.86 **2.702**	17.50 **5.334**
HZ 880M C	13.81 **292.4**	2,073.7 **283,180**	129 .6 **6,970**	120.6 **6,485**	38.34 **187**	42.68 **208**	47.01 **230**	8.86 **2.702**	17.50 **5.334**
HZ 1080M A	14.52 **307.3**	3,350.9 **457,580**	162 .3 **8,725**	152.3 **8,185**	40.71 **199**	45.06 **220**	49.40 **241**	8.84 **2.695**	18.92 **5.768**
HZ 1080M B	15.02 **317.9**	3,569.0 **487,370**	171 .9 **9,240**	162.2 **8,720**	42.43 **207**	46.77 **228**	51.12 **250**	8.84 **2.696**	18.93 **5.769**
HZ 1080M C	15.94 **337.4**	3,835.7 **523,790**	183 .7 **9,875**	174.3 **9,375**	45.56 **222**	49.91 **244**	54.25 **265**	8.85 **2.697**	18.93 **5.771**
HZ 1080M D	16.69 **353.2**	4,097.0 **559,460**	194 .7 **10,470**	186.2 **10,015**	48.11 **235**	52.45 **256**	56.79 **277**	8.85 **2.698**	18.94 **5.771**
HZ 1180M A	17.28 **365.8**	4,293.0 **586,240**	202 .6 **10,890**	195.4 **10,505**	50.14 **245**	54.48 **266**	58.82 **287**	8.85 **2.699**	18.94 **5.772**
HZ 1180M B	17.64 **373.4**	4,452.9 **608,070**	209 .3 **11,255**	202.4 **10,885**	51.35 **251**	55.69 **272**	60.03 **293**	8.86 **2.700**	18.94 **5.774**
HZ 1180M C	18.60 **393.8**	4,806.3 **656,330**	223 .6 **12,020**	216.0 **11,610**	54.20 **265**	58.76 **287**	63.31 **309**	8.90 **2.713**	19.05 **5.808**
HZ 1180M D	19.14 **405.1**	4,978.1 **679,780**	230 .8 **12,410**	223.8 **12,030**	56.02 **273**	60.57 **296**	65.13 **318**	8.92 **2.719**	19.07 **5.814**

* Respecto al exterior del patín de la HZ®-M (el mayor valor de v_1; v_2), ** Respecto al exterior del conector (el mayor valor de v_3; v_4), *** Largo de conectores = Largo de la AZ.

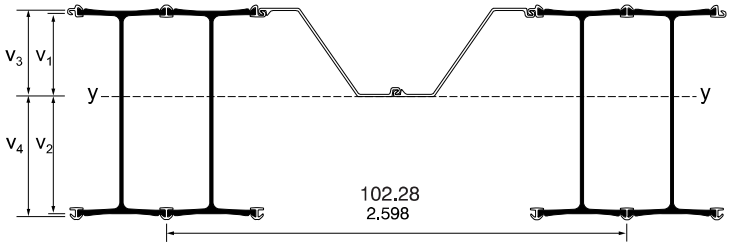
Combination HZ...M-24 / AZ 18-800



SECCIÓN	PROPIEDADES POR METRO DE MURO				PESO DE LA COMBINACIÓN CON TABLESTACA INTERMEDIA				
					*** AZ 18-800			ÁREA DE RECUBRIMIENTO	
	Área de Sección in²/ft **cm²/m**	Momento de Inercia in⁴/ft **cm⁴/m**	*Módulo de Sección Elástico in³/ft **cm³/m**	**Módulo de Sección Elástico in³/ft **cm³/m**	£AZ = 60% £HZ lb/ft² **kg/m²**	£AZ = 80% £HZ lb/ft² **kg/m²**	£AZ = £HZ lb/ft² **kg/m²**	Lado Agua ft²/ft **m²/m**	Lado Tierra ft²/ft **m²/m**
HZ 630M	16.79 **355.5**	1,644.7 **224,600**	128.2 **6,895**	118.0 **6,345**	50.87 **248**	54.01 **264**	57.15 **279**	10.32 **3.145**	16.76 **5.109**
HZ 880M A	15.73 **332.9**	2,495.8 **340,810**	148.6 **7,985**	137.5 **7,390**	47.42 **232**	50.47 **246**	53.52 **261**	10.57 **3.222**	18.49 **5.637**
HZ 880M B	16.87 **357.0**	2,689.6 **367,290**	160.2 **8,610**	148.9 **8,005**	51.30 **250**	54.35 **265**	57.40 **280**	10.59 **3.229**	18.51 **5.643**
HZ 880M C	17.39 **368.1**	2,825.1 **385,790**	167.8 **9,020**	156.7 **8,420**	53.09 **259**	56.14 **274**	59.18 **289**	10.59 **3.228**	18.51 **5.643**
HZ 1080M A	18.56 **392.8**	4,656.0 **635,800**	215.0 **11,555**	202.3 **10,875**	57.04 **278**	60.10 **293**	63.16 **308**	10.54 **3.214**	19.92 **6.070**
HZ 1080M B	19.39 **410.3**	5,014.3 **684,730**	230.8 **12,410**	218.4 **11,740**	59.85 **292**	62.91 **307**	65.97 **322**	10.55 **3.216**	19.92 **6.073**
HZ 1080M C	20.88 **442.1**	5,450.3 **744,280**	250.5 **13,470**	238.3 **12,810**	64.96 **317**	68.02 **332**	71.07 **347**	10.56 **3.219**	19.93 **6.076**
HZ 1080M D	22.11 **467.9**	5,877.7 **802,640**	269.0 **14,460**	257.7 **13,855**	69.12 **337**	72.17 **352**	75.23 **367**	10.57 **3.220**	19.94 **6.077**
HZ 1180M A	23.08 **488.4**	6,198.0 **846,370**	282.2 **15,170**	272.2 **14,635**	72.43 **354**	75.48 **369**	78.53 **383**	10.57 **3.222**	19.94 **6.079**
HZ 1180M B	23.66 **500.8**	6,460.1 **882,170**	293.4 **15,770**	284.0 **15,270**	74.41 **363**	77.46 **378**	80.51 **393**	10.58 **3.225**	19.97 **6.088**
HZ 1180M C	24.95 **528.0**	6,919.2 **944,860**	312.7 **16,810**	302.3 **16,255**	78.69 **384**	81.79 **399**	84.90 **415**	10.64 **3.242**	20.02 **6.101**
HZ 1180M D	25.81 **546.4**	7,198.9 **983,050**	324.6 **17,455**	315.0 **16,935**	81.64 **399**	84.74 **414**	87.84 **429**	10.68 **3.254**	20.05 **6.110**

* Respecto al exterior del patín de la HZ®-M (v_2), ** Respecto al exterior del conector (v_3), *** Largo de conectores = Largo de la AZ.

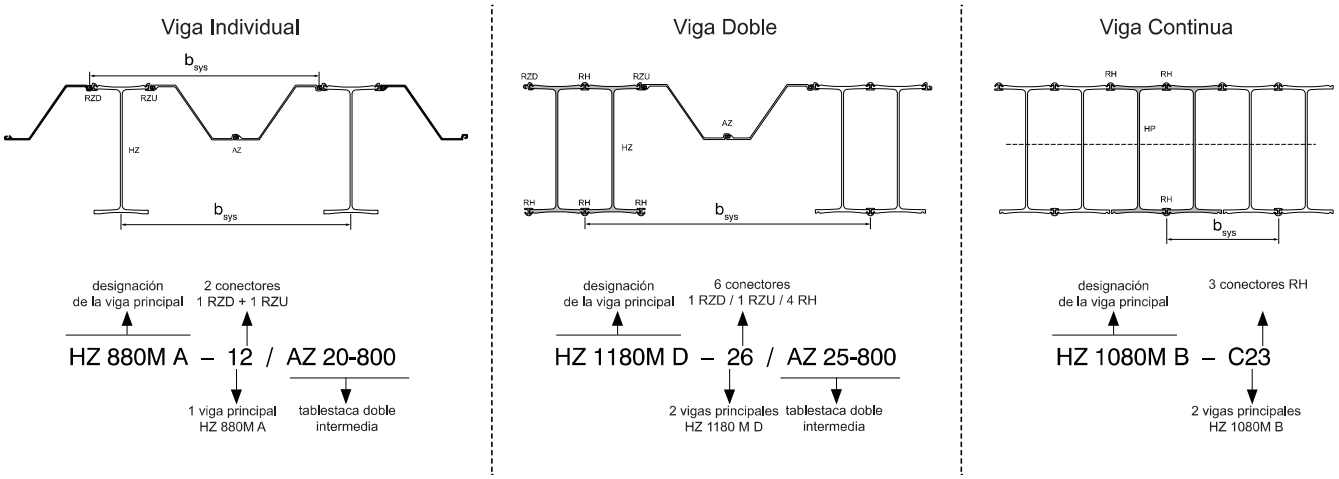
Combination HZ...M-26 / AZ 18-800



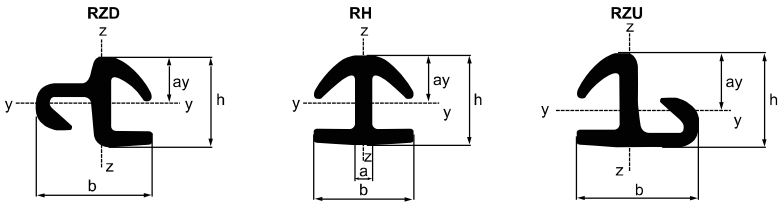
SECCIÓN	PROPIEDADES POR METRO DE MURO				PESO DE LA COMBINACIÓN CON TABLESTACA INTERMEDIA				
					*** AZ 18-800			ÁREA DE RECUBRIMIENTO	
	Área de Sección in²/ft **cm²/m**	Momento de Inercia in⁴/ft **cm⁴/m**	*Módulo de Sección Elástico in³/ft **cm³/m**	**Módulo de Sección Elástico in³/ft **cm³/m**	£AZ = 60% £HZ lb/ft² **kg/m²**	£AZ = 80% £HZ lb/ft² **kg/m²**	£AZ = £HZ lb/ft² **kg/m²**	Lado Agua ft²/ft **m²/m**	Lado Tierra ft²/ft **m²/m**
HZ 630M	17.55 **371.4**	1,759.4 **240,250**	145.1 **7,800**	132.8 **7,140**	52.40 **256**	56.06 **274**	59.72 **292**	10.32 **3.145**	17.62 **5.371**
HZ 880M A	16.46 **348.4**	2,692.6 **367,690**	170.1 **9,145**	156.7 **8,425**	48.91 **239**	52.46 **256**	56.01 **273**	10.57 **3.222**	19.21 **5.854**
HZ 880M B	17.60 **372.4**	2,885.1 **393,980**	181.4 **9,750**	167.9 **9,025**	52.79 **258**	56.34 **275**	59.88 **292**	10.59 **3.229**	19.23 **5.860**
HZ 880M C	18.12 **383.6**	3,020.2 **412,430**	188.9 **10,160**	175.8 **9,450**	54.58 **266**	58.12 **284**	61.67 **301**	10.59 **3.228**	19.23 **5.860**
HZ 1080M A	19.29 **408.4**	4,986.8 **680,970**	241.7 **12,995**	226.8 **12,190**	58.53 **286**	62.10 **303**	65.66 **321**	10.54 **3.214**	20.63 **6.288**
HZ 1080M B	20.12 **425.9**	5,344.2 **729,790**	257.5 **13,845**	243.0 **13,065**	61.35 **300**	64.91 **317**	68.47 **334**	10.55 **3.216**	20.64 **6.290**
HZ 1080M C	21.62 **457.6**	5,778.4 **789,080**	276.9 **14,885**	262.8 **14,130**	66.46 **324**	70.01 **342**	73.57 **359**	10.56 **3.219**	20.65 **6.293**
HZ 1080M D	22.84 **483.4**	6,204.6 **847,280**	295.1 **15,865**	282.2 **15,170**	70.61 **345**	74.17 **362**	77.72 **379**	10.57 **3.220**	20.65 **6.294**
HZ 1180M A	23.81 **503.9**	6,523.9 **890,880**	308.0 **16,560**	296.7 **15,955**	73.92 **361**	77.47 **378**	81.02 **396**	10.57 **3.222**	20.65 **6.296**
HZ 1180M B	24.39 **516.2**	6,785.7 **926,630**	319.2 **17,160**	308.6 **16,595**	75.90 **371**	79.45 **388**	83.00 **405**	10.58 **3.225**	20.67 **6.299**
HZ 1180M C	25.86 **547.4**	7,323.8 **1,000,110**	342.0 **18,390**	330.3 **17,760**	80.56 **393**	84.29 **412**	88.01 **430**	10.64 **3.242**	20.79 **6.337**
HZ 1180M D	26.73 **565.7**	7,602.6 **1,038,190**	353.8 **19,020**	342.9 **18,435**	83.51 **408**	87.23 **426**	90.96 **444**	10.68 **3.254**	20.83 **6.349**

* Respecto al exterior del patín de la HZ®-M (el mayor valor de v_1; v_2), ** Respecto al exterior del conector (el mayor valor de v_3; v_4), *** Largo de conectores = Largo de la AZ.

Definición del Sistema de Muro Combinado HZ®-M

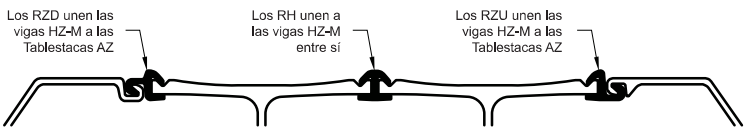


Conectores

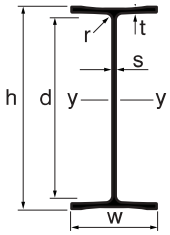


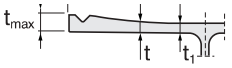
SECCIÓN	DIMENSIONES h in / mm	b in / mm	a in / mm	ay in / mm	Viga Principal Adecuada	Área de Sección in² / cm²	Peso lb/ft / kg/m	MOMENTO DE INERCIA y-y in⁴ / cm⁴	MOMENTO DE INERCIA z-z in⁴ / cm⁴	MÓDULO DE SECCIÓN ELÁSTICO y-y in³ / cm³	MÓDULO DE SECCIÓN ELÁSTICO z-z in³ / cm³	ÁREA CUBIERTA Lado Agua ft²/ft / m²/m	ÁREA CUBIERTA Lado Tierra ft²/ft / m²/m
RZD 16	2.43 **61.8**	3.19 **80.5**	-	1.24 **31.5**	HZ 880M / 1080M / 1180M A-B	3.21 **20.7**	10.89 **16.2**	1.4 **57**	2.3 **94**	1.1 **18**	1.3 **22**	0.39 **0.12**	0.20 **0.06**
RZU 16	2.43 **61.8**	3.19 **80.5**	-	1.51 **38.3**	HZ 880M / 1080M / 1180M A-B	3.16 **20.4**	10.82 **16.0**	1.6 **68**	2.3 **94**	1.1 **18**	1.3 **22**	0.26 **0.08**	0.33 **0.10**
RH 16	2.43 **61.8**	2.69 **68.2**	0.48 **12.2**	1.28 **32.5**	HZ 880M / 1080M / 1180M A-B	3.12 **20.1**	10.75 **15.8**	2.0 **83**	1.3 **54**	1.5 **25**	1.0 **16**	0.33 **0.10**	0.30 **0.09**
RZD 18	2.65 **67.3**	3.35 **85.0**	-	1.41 **35.9**	HZ 1180M C-D	3.57 **23.0**	12.16 **18.0**	1.9 **78**	2.6 **110**	1.3 **22**	1.5 **25**	0.39 **0.12**	0.23 **0.07**
RZU 18	2.65 **67.3**	3.35 **85.0**	-	1.66 **42.1**	HZ 1180M C-D	3.50 **22.6**	12.03 **17.8**	2.2 **92**	2.6 **110**	1.3 **22**	1.5 **25**	0.30 **0.09**	0.33 **0.10**
RH 20	2.65 **67.3**	3.12 **79.2**	0.56 **14.2**	1.44 **36.5**	HZ 1180M C-D	3.91 **25.2**	13.44 **19.8**	2.9 **122**	2.1 **88**	2.0 **33**	1.3 **22**	0.36 **0.11**	0.33 **0.10**

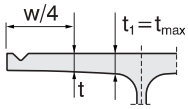
Sin otra especificación, todos los conectores se ofrecen en grado S430 GP.



Viga Principal HZ®-M

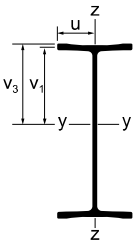






SECCIÓN	DIMENSIONES									Conector Adecuado	
	h in mm	h_1 in mm	d in mm	w in mm	t_1 in mm	t_{max} in mm	t in mm	s in mm	r in mm		
HZ 630M	24.86 631.4	24.24 615.7	20.08 510.1	16.54 420.0	0.89 22.7	1.14 29.0	0.67 16.9	0.63 16.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 880M A	32.73 831.3	31.63 803.4	28.72 729.4	18.03 458.0	0.67 17.0	1.14 29.0	0.74 18.9	0.51 13.0	0.79 20.0	RZD/RZU 16	RH 16
HZ 880M B	32.73 831.3	31.79 807.4	28.72 729.4	18.11 460.0	0.75 19.0	1.14 29.0	0.82 20.9	0.59 15.0	0.79 20.0	RZD/RZU 16	RH 16
HZ 880M C	32.73 831.3	31.94 811.4	28.72 729.4	18.11 460.0	0.83 21.0	1.14 29.0	0.90 22.9	0.59 15.0	0.79 20.0	RZD/RZU 16	RH 16
HZ 1080M A	42.33 1075.3	41.24 1047.4	37.23 945.6	17.87 454.0	0.81 20.7	1.14 29.0	0.77 19.6	0.63 16.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1080M B	42.33 1075.3	41.47 1053.4	37.23 945.6	17.87 454.0	0.93 23.7	1.14 29.0	0.89 22.6	0.63 16.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1080M C	42.33 1075.3	41.71 1059.4	37.23 945.6	17.95 456.0	1.05 26.7	1.14 29.0	1.01 25.7	0.71 18.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1080M D	42.33 1075.3	42.02 1067.4	37.23 945.6	17.99 457.0	1.21 30.7	1.21 30.7	1.17 29.7	0.75 19.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1180M A	42.34 1075.4	-	37.23 945.6	18.03 458.0	1.37 34.7	1.36 34.7	1.22 31.0	0.79 20.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1180M B	42.50 1079.4	-	37.23 945.6	18.03 458.0	1.44 36.7	1.44 36.7	1.30 33.0	0.79 20.0	1.18 30.0	RZD/RZU 16	RH 16
HZ 1180M C	42.65 1083.4	-	37.23 945.6	18.07 459.0	1.52 38.7	1.52 38.7	1.38 35.0	0.83 21.0	1.18 30.0	RZD/RZU 18	RH 20
HZ 1180M D	42.81 1087.4	-	37.23 945.6	18.11 460.0	1.60 40.7	1.60 40.7	1.46 37.0	0.87 22.0	1.18 30.0	RZD/RZU 18	RH 20

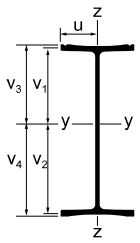
Solución 100



SECCIÓN	PROPIEDADES DE LA SOLUCIÓN													
	Dimensiones					Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
	v_1	v_2	v_3	v_4	u	in²	lb/ft	y-y	z-z	y-y*	y-y**	z-z	Lado Agua	Lado Tierra
	in **mm**	in **mm**	in **mm**	in **mm**	in **mm**	**cm²**	**kg/m**	in⁴ **cm⁴**	in⁴ **cm⁴**	in³ **cm³**	in³ **cm³**	in³ **cm³**	ft²/ft **m²/m**	ft²/ft **m²/m**
HZ 630M	12.12 **307.9**	-	12.43 **315.7**	-	8.27 **210.0**	48.37 **312.0**	164.59 **244.9**	5306.2 **220,860**	822.2 **34,220**	437.7 **7,175**	-	99.4 **1,630**	1.38 **0.421**	7.97 **2.430**
HZ 880M A	15.82 **401.7**	-	16.36 **415.7**	-	9.02 **229.0**	45.82 **295.6**	155.92 **232.0**	8571.4 **356,770**	960.8 **39,990**	542.0 **8,880**	-	106.6 **1,745**	1.51 **0.459**	9.73 **2.966**
HZ 880M B	15.89 **403.7**	-	16.36 **415.7**	-	9.06 **230.0**	50.87 **328.2**	173.13 **257.6**	9435.7 **392,750**	1027.5 **42,770**	593.7 **9,730**	-	113.5 **1,860**	1.51 **0.461**	9.74 **2.967**
HZ 880M C	15.97 **405.7**	-	16.36 **415.7**	-	9.06 **230.0**	53.11 **342.7**	180.76 **269.0**	10012.7 **416,760**	1065.5 **44,350**	626.9 **10,275**	-	117.7 **1,930**	1.51 **0.461**	9.73 **2.967**
HZ 1080M A	20.62 **523.7**	-	21.17 **537.7**	-	8.94 **227.0**	57.63 **371.8**	196.13 **291.9**	16805.3 **699,490**	944.7 **39,320**	815.1 **13,355**	-	105.7 **1,730**	1.49 **0.455**	11.17 **3.403**
HZ 1080M B	20.74 **526.7**	-	21.17 **537.7**	-	8.94 **227.0**	61.26 **395.2**	208.46 **310.2**	18373.8 **764,780**	1016.2 **42,300**	886.1 **14,520**	-	113.7 **1,865**	1.49 **0.455**	11.17 **3.403**
HZ 1080M C	20.85 **529.7**	-	21.17 **537.7**	-	8.98 **228.0**	67.77 **437.2**	230.62 **343.2**	20257.8 **843,200**	1079.8 **44,950**	971.4 **15,920**	-	120.3 **1,970**	1.50 **0.457**	11.17 **3.405**
HZ 1080M D	21.01 **533.7**	-	21.17 **537.7**	-	9.00 **228.5**	73.04 **471.2**	248.56 **369.9**	22093.2 **919,590**	1127.5 **46,930**	1051.5 **17,230**	-	125.3 **2,055**	1.50 **0.457**	11.17 **3.405**
HZ 1180M A	21.17 **537.7**	-	21.17 **537.7**	-	9.02 **229.0**	77.26 **498.4**	262.92 **391.3**	23479.2 **977,280**	1151.8 **47,940**	1109.1 **18,175**	-	127.8 **2,095**	1.50 **0.458**	11.18 **3.406**
HZ 1180M B	21.25 **539.7**	-	21.25 **539.7**	-	9.02 **229.0**	80.09 **516.7**	272.57 **405.6**	24755.0 **1,030,390**	1228.6 **51,140**	1165.1 **19,090**	-	136.3 **2,235**	1.50 **0.458**	11.20 **3.414**
HZ 1180M C	21.33 **541.7**	-	21.33 **541.7**	-	9.04 **229.5**	84.61 **545.9**	287.95 **428.5**	26296.4 **1,094,540**	1314.5 **54,720**	1233.0 **20,205**	-	145.5 **2,385**	1.51 **0.459**	11.23 **3.423**
HZ 1180M D	21.41 **543.7**	-	21.41 **543.7**	-	9.06 **230.0**	89.14 **575.1**	303.37 **451.5**	27852.9 **1,159,330**	1401.5 **58,340**	1301.2 **21,325**	-	154.8 **2,535**	1.53 **0.466**	11.24 **3.426**

* Respecto al exterior del patín de la HZ®-M

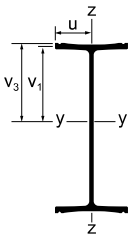
Solución 102



JD FIELDS & COMPANY, INC.	PROPIEDADES DE LA SOLUCIÓN													
	Dimensiones					Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
SECCIÓN	v_1 in mm	v_2 in mm	v_3 in mm	v_4 in mm	u in mm	in^2 cm^2	lb/ft kg/m	y-y in^4 cm^4	z-z in^4 cm^4	y-y* in^3 cm^3	y-y** in^3 cm^3	z-z in^3 cm^3	Lado Agua ft^2/ft m^2/m	Lado Tierra ft^2/ft m^2/m
HZ 630M	12.26 **311.4**	11.98 **304.4**	12.57 **319.2**	12.29 **312.2**	8.27 **210.0**	47.83 **308.6**	162.77 **242.2**	5224.5 **217,460**	793.1 **33010**	426.2 **6,985**	-	95.9 **1,570**	1.44 **0.440**	7.97 **2.430**
HZ 880M A	15.99 **406.2**	15.64 **397.2**	16.54 **420.1**	16.19 **411.2**	9.02 **229.0**	45.32 **292.4**	154.24 **229.5**	8441.1 **351,350**	928.4 **38640**	527.9 **8,650**	-	103.0 **1,685**	1.57 **0.478**	9.73 **2.966**
HZ 880M B	16.07 **408.1**	15.72 **399.3**	16.54 **420.0**	16.19 **411.3**	9.06 **230.0**	50.33 **324.7**	171.30 **254.9**	9293.2 **386,810**	991.9 **41280**	578.4 **9,480**	-	109.5 **1,795**	1.58 **0.481**	9.74 **2.967**
HZ 880M C	16.14 **409.9**	15.81 **401.5**	16.53 **419.9**	16.20 **411.4**	9.06 **230.0**	52.58 **339.2**	178.93 **266.3**	9870.3 **410,830**	1029.8 **42870**	611.6 **10,025**	-	113.7 **1,865**	1.58 **0.480**	9.73 **2.967**
HZ 1080M A	20.80 **528.2**	20.44 **519.2**	21.34 **542.2**	20.99 **533.1**	8.94 **227.0**	57.15 **368.7**	194.49 **289.4**	16590.8 **690,560**	913.4 **38020**	797.8 **13,075**	-	102.2 **1,675**	1.55 **0.473**	11.17 **3.403**
HZ 1080M B	20.92 **531.4**	20.55 **522.0**	21.35 **542.4**	20.98 **532.9**	8.94 **227.0**	60.72 **391.7**	206.63 **307.5**	18134.7 **754,830**	981.6 **40860**	866.8 **14,205**	-	109.8 **1,800**	1.56 **0.475**	11.17 **3.403**
HZ 1080M C	21.02 **534.0**	20.69 **525.4**	21.34 **541.9**	21.00 **533.4**	8.98 **228.0**	67.23 **433.7**	228.79 **340.5**	20018.9 **833,250**	1044.9 **43490**	952.3 **15,605**	-	116.4 **1,910**	1.56 **0.476**	11.17 **3.405**
HZ 1080M D	21.17 **537.7**	20.86 **529.7**	21.32 **541.6**	21.01 **533.7**	9.00 **228.5**	72.50 **467.7**	246.73 **367.2**	21854.4 **909,650**	1092.3 **45470**	1032.5 **16,920**	-	121.4 **1,990**	1.56 **0.477**	11.17 **3.405**
HZ 1180M A	21.32 **541.5**	21.02 **533.9**	21.32 **541.5**	21.02 **533.9**	9.02 **229.0**	76.72 **494.9**	261.08 **388.5**	23238.6 **967,270**	1116.2 **46460**	1090.1 **17,865**	-	123.8 **2,030**	1.57 **0.477**	11.18 **3.406**
HZ 1180M B	21.44 **544.5**	21.06 **534.9**	21.44 **544.5**	21.06 **534.9**	9.02 **229.0**	79.37 **512.1**	270.13 **402.0**	24433.5 **1,017,000**	1181.4 **49170**	1139.7 **18,675**	-	131.0 **2,145**	1.58 **0.481**	11.20 **3.414**
HZ 1180M C	21.51 **546.3**	21.15 **537.1**	21.51 **546.3**	21.15 **537.1**	9.04 **229.5**	83.89 **541.2**	285.51 **424.9**	25972.6 **1,081,070**	1267.1 **52740**	1207.6 **19,790**	-	140.2 **2,300**	1.58 **0.482**	11.23 **3.423**
HZ 1180M D	21.67 **550.4**	21.14 **537.0**	21.67 **550.4**	21.14 **537.0**	9.06 **230.0**	88.05 **568.1**	299.66 **445.9**	27355.6 **1,138,630**	1329.5 **55340**	1262.5 **20,690**	-	146.8 **2,405**	1.60 **0.487**	11.24 **3.426**

* Respecto al exterior del patín de la HZ®-M

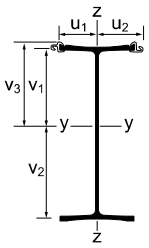
Solución 104



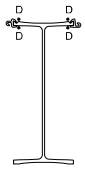
SECCIÓN	PROPIEDADES DE LA SOLUCIÓN													Recubrimiento	
	Dimensiones					Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico					
	v_1	v_2	v_3	v_4	u			y-y	z-z	y-y*	y-y**	z-z			
	in	in	in	in	in	in^2	lb/ft	in^4	in^4	in^3	in^3	in^3		Lado Agua	Lado Tierra
	mm	mm	mm	mm	mm	cm^2	kg/m	cm^4	cm^4	cm^3	cm^3	cm^3		ft^2/ft	ft^2/ft
														m^2/m	m^2/m
HZ 630M	12.12	12.12	12.43	12.43	8.27	47.29	160.94	5144.6	764.0	424.4	-	92.4		1.44	8.04
	307.9	307.9	315.7	315.7	210.0	305.1	239.5	214,130	31800	6,955		1,515		0.440	2.449
HZ 880M A	15.82	15.82	16.36	16.36	9.02	44.83	152.57	8313.6	895.9	525.7	-	99.4		1.57	9.79
	401.7	401.7	415.7	415.7	229.0	289.2	227.0	346,040	37290	8,615		1,630		0.478	2.984
HZ 880M B	15.89	15.89	16.36	16.36	9.06	49.80	169.47	9153.7	956.2	575.9	-	105.6		1.58	9.80
	403.7	403.7	415.7	415.7	230.0	321.3	252.2	381,010	39800	9,440		1,730		0.481	2.987
HZ 880M C	15.97	15.97	16.36	16.36	9.06	52.04	177.10	9730.7	994.2	609.2	-	109.8		1.58	9.80
	405.7	405.7	415.7	415.7	230.0	335.7	263.6	405,030	41380	9,985		1,800		0.480	2.987
HZ 1080M A	20.62	20.62	21.17	21.17	8.94	56.67	192.84	16379.9	882.1	794.4	-	98.7		1.55	11.23
	523.7	523.7	537.7	537.7	227.0	365.6	287.0	681,790	36720	13,020		1,620		0.473	3.421
HZ 1080M B	20.74	20.74	21.17	21.17	8.94	60.18	204.80	17899.8	947.0	863.2	-	106.0		1.56	11.23
	526.7	526.7	537.7	537.7	227.0	388.3	304.8	745,050	39420	14,145		1,735		0.475	3.423
HZ 1080M C	20.85	20.85	21.17	21.17	8.98	66.69	226.96	19783.7	1009.9	948.7	-	112.5		1.56	11.23
	529.7	529.7	537.7	537.7	228.0	430.3	337.8	823,460	42040	15,545		1,845		0.476	3.424
HZ 1080M D	21.01	21.01	21.17	21.17	9.00	71.96	244.90	21619.1	1057.2	1028.9	-	117.5		1.56	11.24
	533.7	533.7	537.7	537.7	228.5	464.3	364.4	899,860	44000	16,860		1,925		0.477	3.425
HZ 1180M A	21.17	21.17	21.17	21.17	9.02	76.17	259.23	23001.4	1080.6	1086.6	-	119.9		1.57	11.24
	537.7	537.7	537.7	537.7	229.0	491.4	385.8	957,390	44980	17,805		1,965		0.477	3.426
HZ 1180M B	21.25	21.25	21.25	21.25	9.02	78.66	267.68	24117.8	1134.2	1135.1	-	125.8		1.58	11.28
	539.7	539.7	539.7	539.7	229.0	507.5	398.4	1,003,860	47210	18,600		2,060		0.481	3.437
HZ 1180M C	21.33	21.33	21.33	21.33	9.04	83.17	283.06	25654.4	1219.6	1202.9	-	135.0		1.58	11.31
	541.7	541.7	541.7	541.7	229.5	536.6	421.2	1,067,820	50760	19,710		2,210		0.482	3.446
HZ 1180M D	21.41	21.41	21.41	21.41	9.06	86.96	295.94	26870.5	1257.5	1255.3	-	138.9		1.60	11.31
	543.7	543.7	543.7	543.7	230.0	561.0	440.4	1,118,440	52340	20,570		2,275		0.487	3.447

* Respecto al exterior del patín de la HZ®-M

Solución 12



Forma de Entrega



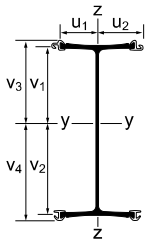
D = soldadura discontinua, a = 6 mm, 10% de la longitud (100 mm/m) a todo lo largo del pilote + 500 mm de soldadura continua en cabeza y punta.

R = soldadura continua, a = 6 mm, longitud de 500 mm en cabeza y punta solamente.

SECCIÓN	PROPIEDADES DE LA SOLUCIÓN														
	Dimensiones						Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
	v_1	v_2	v_3	v_4	u_1	u_2			y-y	z-z	y-y*	y-y**	z-z	Lado Agua	Lado Tierra
	in	in	in	in	in	in	in^2	lb/ft	in^4	in^4	in^3	in^3	in^3	ft^2/ft	ft^2/ft
	mm	**mm**	**mm**	**mm**	**mm**	**mm**	**cm^2**	**kg/m**	**cm^4**	**cm^4**	**cm^3**	**cm^3**	**cm^3**	**m^2/m**	**m^2/m**
HZ 630M	10.85 **275.5**	13.39 **340.2**	11.96 **303.8**	-	8.26 **209.9**	10.39 **263.9**	54.20 **349.7**	184.45 **274.5**	6036.6 **251,260**	1282.9 **53400**	450.7 **7,385**	504.8 **8270**	123.5 **2,025**	1.91 **0.582**	8.29 **2.527**
HZ 880M A	14.02 **356.2**	17.61 **447.2**	15.37 **390.5**	-	9.01 **228.9**	11.14 **282.9**	51.70 **333.5**	175.93 **261.8**	9868.8 **410,770**	1504.9 **62640**	560.5 **9,185**	641.9 **10520**	135.1 **2,215**	2.04 **0.621**	9.90 **3.017**
HZ 880M B	14.27 **362.5**	17.51 **444.9**	15.55 **394.9**	-	9.05 **229.9**	11.18 **283.9**	56.71 **365.8**	192.98 *287.2*	10738.1 **446,960**	1573.2 **65480**	613.1 **10,045**	690.8 **11320**	140.8 **2,305**	2.05 **0.624**	9.91 **3.019**
HZ 880M C	14.41 **366.1**	17.53 **445.3**	15.61 **396.4**	-	9.05 **229.9**	11.18 **283.9**	58.95 **380.3**	200.61 **298.5**	11320.8 **471,210**	1611.2 **67060**	645.7 **10,580**	725.3 **11885**	144.2 **2,360**	2.05 **0.624**	9.90 **3.019**
HZ 1080M A	18.72 **475.6**	22.51 **571.8**	20.07 **509.9**	-	8.93 **226.9**	11.06 **280.9**	63.52 **409.8**	216.17 **321.7**	19067.5 **793,650**	1480.5 **61620**	846.9 **13,880**	949.9 **15565**	133.9 **2,195**	2.02 **0.617**	11.34 **3.455**
HZ 1080M B	18.96 **481.5**	22.51 **571.9**	20.19 **512.9**	-	8.93 **226.9**	11.06 **280.9**	67.09 **432.8**	228.32 **339.8**	20628.1 **858,610**	1548.7 **64460**	916.2 **15,015**	1021.7 **16740**	140.1 **2,295**	2.03 **0.618**	11.33 **3.455**
HZ 1080M C	19.23 **488.5**	22.48 **570.9**	20.35 **516.8**	-	8.97 **227.9**	11.10 **281.9**	73.60 **474.8**	250.48 **372.8**	22531.1 **937,820**	1616.7 **67290**	1002.5 **16,430**	1107.3 **18145**	145.7 **2,385**	2.03 **0.619**	11.34 **3.456**
HZ 1080M D	19.50 **495.3**	22.53 **572.1**	20.46 **519.6**	-	8.99 **228.4**	11.12 **282.4**	78.87 **508.8**	268.41 **399.4**	24379.5 **1,014,760**	1666.5 **69370**	1082.3 **17,735**	1191.9 **19530**	149.9 **2,455**	2.03 **0.620**	11.34 **3.457**
HZ 1180M A	19.73 **501.2**	22.61 **574.2**	20.53 **521.5**	-	9.01 **228.9**	11.14 **282.9**	83.09 **536.0**	282.76 **420.8**	25773.1 **1,072,760**	1692.8 **70460**	1140.1 **18,685**	1255.2 **20570**	152.0 **2,490**	2.04 **0.621**	11.34 **3.458**
HZ 1180M B	19.89 **505.3**	22.60 **574.1**	20.61 **523.6**	-	9.01 **228.9**	11.14 **282.9**	85.75 **553.2**	291.81 **434.3**	26985.0 **1,123,200**	1758.2 **73180**	1193.9 **19,565**	1309.0 **21450**	157.9 **2,585**	2.04 **0.622**	11.36 **3.462**
HZ 1180M C	19.90 **505.4**	22.76 **578.0**	20.66 **524.7**	-	9.03 **229.4**	11.16 **283.4**	90.96 **586.8**	309.55 **460.7**	28778.5 **1,197,860**	1897.2 **78970**	1264.6 **20,725**	1393.2 **22830**	170.1 **2,785**	2.08 **0.635**	11.39 **3.471**
HZ 1180M D	20.13 **511.2**	22.68 **576.2**	20.81 **528.5**	-	9.05 **229.9**	11.18 **283.9**	95.12 **613.7**	323.70 **481.7**	30194.1 **1,256,780**	1962.2 **81670**	1331.1 **21,815**	1451.1 **23780**	175.6 **2,875**	2.10 **0.641**	11.40 **3.476**

* Respecto al exterior del patín de la HZ-M (v_2). ** Respecto al exterior del conector (v_3).

Solución 14



Forma de Entrega

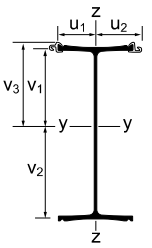
D = soldadura discontinua, a = 6 mm, 10% de la longitud (100 mm/m) a todo lo largo del pilote + 500 mm de soldadura continua en cabeza y punta.

R = soldadura continua, a = 6 mm, longitud de 500 mm en cabeza y punta solamente.

JD FIELDS & COMPANY, INC.	PROPIEDADES DE LA SOLUCIÓN														
	Dimensiones						Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
SECCIÓN	v_1 in **mm**	v_2 in **mm**	v_3 in **mm**	v_4 in **mm**	u_1 in **mm**	u_2 in **mm**	in^2 **cm^2**	lb/ft **kg/m**	y-y in^4 **cm^4**	z-z in^4 **cm^4**	y-y* in^3 **cm^3**	y-y** in^3 **cm^3**	z-z in^3 **cm^3**	Lado Agua ft^2/ft **m^2/m**	Lado Tierra ft^2/ft **m^2/m**
HZ 630M	12.10 **307.5**	12.14 **308.3**	13.22 **335.7**	13.25 **336.6**	8.26 **209.9**	10.39 **263.9**	59.90 **386.5**	203.85 **303.4**	6939.7 **288,850**	1711.8 **71250**	571.8 **9,370**	523.7 **8580**	164.8 **2,700**	1.91 **0.582**	9.21 **2.808**
HZ 880M A	15.79 **401.1**	15.84 **402.4**	17.14 **435.4**	17.20 **436.8**	9.01 **228.9**	11.14 **282.9**	57.44 **370.6**	195.49 **290.9**	11486.0 **478,080**	2013.6 **83810**	725.1 **11,880**	667.9 **10945**	180.8 **2,965**	2.04 **0.621**	10.67 **3.253**
HZ 880M B	15.87 **403.1**	15.92 **404.3**	17.14 **435.4**	17.19 **436.8**	9.05 **229.9**	11.18 **283.9**	62.41 **402.6**	212.38 **316.1**	12326.1 **513,050**	2083.3 **86710**	774.4 **12,690**	716.9 **11745**	186.4 **3,055**	2.05 **0.624**	10.68 **3.256**
HZ 880M C	15.95 **405.1**	16.00 **406.3**	17.14 **435.5**	17.19 **436.7**	9.05 **229.9**	11.18 **283.9**	64.65 **417.1**	220.02 **327.4**	12903.1 **537,070**	2121.3 **88290**	806.7 **13,220**	750.4 **12300**	189.8 **3,110**	2.05 **0.624**	10.68 **3.255**
HZ 1080M A	20.59 **522.9**	20.65 **524.5**	21.94 **557.2**	22.00 **558.9**	8.93 **226.9**	11.06 **280.9**	69.28 **446.9**	235.76 **350.9**	21761.8 **905,800**	1981.3 **82470**	1053.9 **17,270**	989.0 **16205**	179.2 **2,935**	2.02 **0.617**	12.11 **3.690**
HZ 1080M B	20.71 **526.0**	20.77 **527.4**	21.94 **557.3**	22.00 **558.9**	8.93 **226.9**	11.06 **280.9**	72.79 **469.6**	247.72 **368.6**	23281.5 **969,050**	2046.2 **85170**	1121.2 **18,375**	1058.2 **17340**	185.0 **3,030**	2.03 **0.618**	12.11 **3.691**
HZ 1080M C	20.83 **529.0**	20.88 **530.4**	21.94 **557.3**	22.00 **558.8**	8.97 **227.9**	11.10 **281.9**	79.30 **511.6**	269.88 **401.6**	25165.6 **1,047,480**	2118.4 **88170**	1205.2 **19,750**	1143.9 **18745**	190.9 **3,130**	2.03 **0.619**	12.12 **3.693**
HZ 1080M D	20.99 **533.1**	21.04 **534.3**	21.94 **557.4**	22.00 **558.8**	8.99 **228.4**	11.12 **282.4**	84.57 **545.6**	287.81 **428.3**	27001.0 **1,123,870**	2170.3 **90340**	1283.5 **21,035**	1227.4 **20115**	195.2 **3,200**	2.03 **0.620**	12.12 **3.693**
HZ 1180M A	21.15 **537.1**	21.19 **538.3**	21.94 **557.4**	21.97 **558.1**	9.01 **228.9**	11.14 **282.9**	88.78 **572.8**	302.15 **449.6**	28383.2 **1,181,400**	2198.4 **91500**	1339.3 **21,945**	1291.7 **21170**	197.4 **3,235**	2.04 **0.621**	12.12 **3.694**
HZ 1180M B	21.22 **539.1**	21.27 **540.3**	21.95 **557.4**	22.00 **558.7**	9.01 **228.9**	11.14 **282.8**	91.27 **588.8**	310.60 **462.2**	29499.6 **1,227,870**	2251.9 **93730**	1386.8 **22,725**	1341.1 **21975**	202.2 **3,315**	2.04 **0.622**	12.13 **3.696**
HZ 1180M C	21.49 **545.9**	21.16 **537.5**	22.25 **565.2**	21.92 **556.8**	9.03 **229.4**	11.16 **283.4**	98.07 **632.7**	333.73 **496.7**	31982.3 **1,331,210**	2538.0 **105640**	1488.0 **24,385**	1437.2 **23550**	227.5 **3,730**	2.08 **0.635**	12.24 **3.730**
HZ 1180M D	21.57 **547.8**	21.25 **539.6**	22.25 **565.1**	21.93 **556.9**	9.05 **229.9**	11.18 **283.9**	101.85 **657.1**	346.61 **515.8**	33198.4 **1,381,830**	2581.4 **107440**	1539.4 **25,225**	1492.3 **24455**	231.0 **3,785**	2.10 **0.641**	12.26 **3.736**

* Respecto al exterior del patín de la HZ®-M (el mayor valor de v_1; v_2), ** Respecto al exterior del conector (el mayor valor de v_3; v_4)

Solución 124



Forma de Entrega

D = soldadura discontinua, a = 6 mm, 10% de la longitud (100 mm/m) a todo lo largo del pilote + 500 mm de soldadura continua en cabeza y punta.

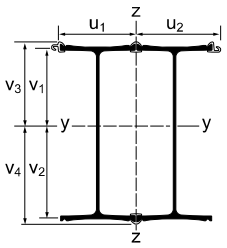
R = soldadura continua, a = 6 mm, longitud de 500 mm en cabeza y punta solamente.

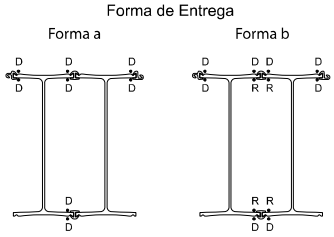
SECCIÓN	PROPIEDADES DE LA SOLUCIÓN														
	Dimensiones						Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
	v_1	v_2	v_3	v_4	u_1	u_2			y-y	z-z	y-y*	y-y**	z-z	Lado Agua	Lado Tierra
	in	in	in	in	in	in	in^2	lb/ft	in^4	in^4	in^3	in^3	in^3	ft^2/ft	ft^2/ft
	mm	mm	mm	mm	mm	mm	cm^2	kg/m	cm^4	cm^4	cm^3	cm^3	cm^3	m^2/m	m^2/m
HZ 630M	10.71 **272.1**	13.53 **343.6**	11.82 **300.3**	-	8.26 **209.9**	10.39 **263.9**	53.66 **346.2**	182.65 **271.8**	5931.1 **247,130**	1252.6 **52190**	438.6 **7,190**	502.0 **8230**	120.8 **1,980**	1.91 **0.582**	8.35 **2.546**
HZ 880M A	13.85 **351.8**	17.78 **451.6**	15.20 **386.1**	-	9.01 **228.8**	11.14 **282.9**	51.20 **330.3**	174.25 **259.3**	9698.2 **404,090**	1471.0 **61290**	546.0 **8,950**	638.4 **10465**	132.1 **2,165**	2.04 **0.621**	9.90 **3.019**
HZ 880M B	14.10 **358.2**	17.69 **449.2**	15.37 **390.5**	-	9.05 **229.9**	11.18 **283.9**	56.17 **362.4**	191.18 **284.5**	10554.7 **439,780**	1536.0 **64000**	597.2 **9,790**	686.9 **11260**	137.6 **2,255**	2.05 **0.624**	9.91 **3.022**
HZ 880M C	14.25 **361.9**	17.70 **449.5**	15.44 **392.3**	-	9.05 **229.9**	11.18 **283.9**	58.40 **376.8**	198.78 **295.8**	11138.2 **464,090**	1573.9 **65580**	629.8 **10,325**	721.6 **11830**	140.9 **2,310**	2.05 **0.624**	9.91 **3.021**
HZ 1080M A	18.54 **470.8**	22.70 **576.6**	19.89 **505.1**	-	8.93 **226.9**	11.06 **280.9**	63.04 **406.7**	214.57 **319.3**	18793.0 **783,040**	1447.7 **60320**	828.4 **13,580**	945.5 **15500**	131.2 **2,150**	2.02 **0.617**	11.39 **3.473**
HZ 1080M B	18.76 **476.6**	22.71 **576.8**	20.00 **507.9**	-	8.93 **226.9**	11.06 **280.9**	66.56 **429.4**	226.46 **337.0**	20325.6 **846,900**	1512.5 **63020**	895.8 **14,685**	1017.2 **16675**	136.9 **2,245**	2.03 **0.618**	11.40 **3.474**
HZ 1080M C	19.06 **484.1**	22.65 **575.3**	20.17 **512.4**	-	8.97 **227.9**	11.10 **281.9**	73.07 **471.4**	248.64 **370.0**	22230.7 **926,280**	1580.2 **65840**	982.1 **16,100**	1102.9 **18080**	142.4 **2,335**	2.03 **0.619**	11.40 **3.476**
HZ 1080M D	19.34 **491.2**	22.69 **576.3**	20.30 **515.5**	-	8.99 **228.4**	11.12 **282.4**	78.34 **505.4**	266.58 **396.7**	24079.9 **1,003,330**	1629.6 **67900**	1062.0 **17,410**	1187.4 **19465**	146.7 **2,405**	2.03 **0.620**	11.41 **3.476**
HZ 1180M A	19.58 **497.3**	22.76 **578.1**	20.38 **517.6**	-	9.01 **228.9**	11.14 **282.9**	82.55 **532.6**	280.96 **418.1**	25471.9 **1,061,330**	1655.5 **68980**	1120.0 **18,360**	1250.8 **20505**	148.8 **2,440**	2.04 **0.621**	11.41 **3.477**
HZ 1180M B	19.70 **500.5**	22.79 **578.9**	20.43 **518.8**	-	9.01 **228.9**	11.14 **282.9**	85.03 **548.6**	289.36 **430.6**	26593.2 **1,108,050**	1709.0 **71210**	1167.5 **19,140**	1303.0 **21360**	153.4 **2,515**	2.04 **0.622**	11.43 **3.484**
HZ 1180M C	19.72 **500.8**	22.94 **582.6**	20.48 **520.1**	-	9.03 **229.4**	11.16 **283.4**	90.24 **582.2**	307.10 **457.0**	28380.2 **1,182,510**	1847.8 **76990**	1238.3 **20,300**	1386.8 **22735**	165.6 **2,715**	2.08 **0.635**	11.46 **3.493**
HZ 1180M D	19.86 **504.5**	22.95 **582.9**	20.54 **521.8**	-	9.05 **229.9**	11.18 **283.9**	94.02 **606.6**	320.01 **476.2**	29604.2 **1,233,510**	1888.3 **78680**	1290.8 **21,160**	1442.0 **23640**	169.0 **2,770**	2.10 **0.641**	11.47 **3.497**

* Respecto al exterior del patín de la HZ®-M (v_2). ** Respecto al exterior del conector (v_3).

MUROS COMBINADOS HZ®-M / AZ®

Solución 24





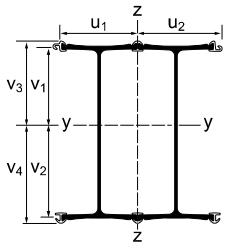
D = soldadura discontinua, a = 6 mm, 10% de la longitud (100 mm/m) a todo lo largo del pilote + 500 mm de soldadura continua en cabeza y punta.

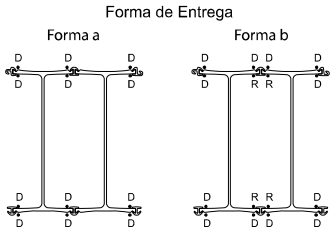
R = soldadura continua, a = 6 mm, longitud de 500 mm en cabeza y punta solamente.

JD FIELDS & COMPANY, INC.	PROPIEDADES DE LA SOLUCIÓN														
	Dimensiones						Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
SECCIÓN	v_1 in **mm**	v_2 in **mm**	v_3 in **mm**	v_4 in **mm**	u_1 in **mm**	u_2 in **mm**	in^2 **cm^2**	lb/ft **kg/m**	y-y in^4 **cm^4**	z-z in^4 **cm^4**	y-y* in^3 **cm^3**	y-y** in^3 **cm^3**	z-z in^3 **cm^3**	Lado Agua ft^2/ft **m^2/m**	Lado Tierra ft^2/ft **m^2/m**
HZ 630M	11.42 **290.0**	12.83 **325.8**	12.53 **318.3**	13.94 **354.1**	16.81 **426.9**	18.93 **480.9**	107.19 **691.5**	364.79 **542.9**	12031.0 **500,770**	10338.8 **430330**	938.1 **15,370**	863.0 **14140**	546.1 **8,950**	3.50 **1.067**	9.94 **3.031**
HZ 880M A	14.83 **376.7**	16.80 **426.7**	16.19 **411.2**	18.16 **461.2**	18.30 **464.8**	20.43 **518.9**	102.27 **659.8**	348.05 **518.0**	19700.6 **820,000**	11783.3 **490460**	1172.7 **19,220**	1217.0 **19945**	576.8 **9,450**	3.75 **1.144**	11.68 **3.559**
HZ 880M B	15.00 **380.9**	16.79 **426.5**	16.27 **413.4**	18.07 **458.9**	18.38 **466.9**	20.51 **520.9**	112.20 **723.9**	381.85 **568.3**	21389.6 **890,310**	12853.1 **534990**	1273.9 **20,875**	1314.3 **21540**	626.7 **10,270**	3.77 **1.150**	11.70 **3.565**
HZ 880M C	15.11 **383.8**	16.83 **427.6**	16.31 **414.3**	18.03 **458.1**	18.38 **466.9**	20.51 **520.9**	116.69 **752.8**	397.12 **591.0**	22547.1 **938,480**	13319.6 **554410**	1339.3 **21,950**	1382.5 **22655**	649.5 **10,645**	3.77 **1.150**	11.69 **3.565**
HZ 1080M A	19.58 **497.2**	21.66 **550.2**	20.93 **531.7**	23.02 **584.6**	18.14 **460.9**	20.27 **514.9**	125.94 **812.5**	428.61 **637.8**	38005.0 **1,581,890**	13596.5 **565930**	1754.6 **28,755**	1815.7 **29755**	670.7 **10,990**	3.73 **1.136**	13.10 **3.992**
HZ 1080M B	19.75 **501.6**	21.72 **551.8**	20.99 **533.1**	22.96 **583.2**	18.14 **460.9**	20.27 **514.9**	132.97 **857.9**	452.52 **673.4**	41051.9 **1,708,720**	14322.7 **596160**	1889.8 **30,970**	1956.2 **32055**	706.6 **11,580**	3.73 **1.138**	13.11 **3.995**
HZ 1080M C	19.96 **506.9**	21.75 **552.5**	21.07 **535.3**	22.87 **581.0**	18.22 **462.9**	20.35 **516.9**	145.99 **941.9**	496.84 **739.4**	44831.4 **1,866,030**	15669.5 **652220**	2060.9 **33,770**	2127.3 **34860**	770.1 **12,620**	3.74 **1.141**	13.12 **3.998**
HZ 1080M D	20.17 **512.4**	21.85 **555.0**	21.14 **536.8**	22.81 **579.4**	18.26 **463.9**	20.39 **517.9**	156.53 **1009.9**	532.71 **792.8**	48510.1 **2,019,150**	16728.2 **696280**	2220.2 **36,380**	2295.3 **37615**	820.5 **13,445**	3.75 **1.142**	13.12 **3.999**
HZ 1180M A	20.37 **517.5**	21.97 **557.9**	21.18 **537.9**	22.77 **578.3**	18.30 **464.9**	20.43 **518.9**	164.96 **1064.2**	561.38 **835.4**	51280.2 **2,134,450**	17564.3 **731080**	2334.7 **38,260**	2421.5 **39680**	859.9 **14,090**	3.75 **1.144**	13.13 **4.001**
HZ 1180M B	20.48 **520.1**	22.02 **559.3**	21.20 **538.5**	22.75 **577.7**	18.30 **464.9**	20.43 **518.9**	169.92 **1096.3**	578.28 **860.6**	53516.1 **2,227,520**	18099.9 **753380**	2430.4 **39,825**	2524.3 **41365**	886.1 **14,520**	3.76 **1.147**	13.15 **4.009**
HZ 1180M C	20.53 **521.3**	22.13 **562.1**	21.29 **540.6**	22.89 **581.4**	18.38 **466.9**	20.51 **520.9**	181.24 **1169.3**	616.79 **917.9**	57523.0 **2,394,300**	19477.8 **810730**	2599.6 **42,600**	2702.5 **44285**	949.8 **15,565**	3.82 **1.164**	13.20 **4.022**
HZ 1180M D	20.64 **524.2**	22.17 **563.2**	21.32 **541.5**	22.86 **580.5**	18.42 **467.9**	20.55 **521.9**	188.81 **1218.1**	642.55 **956.2**	59959.8 **2,495,730**	20289.8 **844530**	2704.0 **44,310**	2812.7 **46095**	987.5 **16,180**	3.86 **1.176**	13.23 **4.032**

* Respecto al exterior del patín de la HZ®-M (v_2). ** Respecto al exterior del conector (v_3).

Solución 26





D = soldadura discontinua, a = 6 mm, 10% de la longitud (100 mm/m) a todo lo largo del pilote + 500 mm de soldadura continua en cabeza y punta.

R = soldadura continua, a = 6 mm, longitud de 500 mm en cabeza y punta solamente.

SECCIÓN	PROPIEDADES DE LA SOLUCIÓN														
	Dimensiones						Área de la Sección	Peso	Momento de Inercia		Módulo de Sección Elástico			Recubrimiento	
	v_1	v_2	v_3	v_4	u_1	u_2			y-y	z-z	y-y*	y-y**	z-z	Lado Agua	Lado Tierra
	in	in	in	in	in	in	in^2	lb/ft	in^4	in^4	in^3	in^3	in^3	ft^2/ft	ft^2/ft
	mm	mm	mm	mm	mm	mm	cm^2	kg/m	cm^4	cm^4	cm^3	cm^3	cm^3	m^2/m	m^2/m
HZ 630M	12.11 **307.6**	12.13 **308.1**	13.23 **336.0**	13.24 **336.4**	16.81 **426.9**	18.93 **480.9**	113.43 **731.8**	386.02 **574.5**	12980.3 **540,280**	12162.8 **506260**	1070.2 **17,535**	980.1 **16060**	642.4 **10,530**	3.50 **1.067**	10.80 **3.292**
HZ 880M A	15.80 **401.4**	15.83 **402.0**	17.16 **435.8**	17.19 **436.5**	18.31 **464.9**	20.43 **518.8**	108.51 **700.1**	369.28 **549.6**	21379.6 **889,890**	13940.2 **580240**	1350.7 **22,135**	1246.1 **20420**	682.5 **11,185**	3.75 **1.144**	12.39 **3.776**
HZ 880M B	15.88 **403.4**	15.91 **404.0**	17.16 **435.8**	17.18 **436.5**	18.38 **467.0**	20.50 **520.8**	118.44 **764.1**	403.08 **599.9**	23059.8 **959,830**	15028.4 **625530**	1449.8 **23,755**	1343.9 **22020**	733.0 **12,010**	3.77 **1.150**	12.41 **3.782**
HZ 880M C	15.96 **405.4**	15.98 **406.0**	17.16 **435.9**	17.18 **436.5**	18.38 **467.0**	20.50 **520.8**	122.93 **793.1**	418.35 **622.6**	24213.8 **1,007,860**	15494.9 **644950**	1514.9 **24,825**	1411.1 **23125**	755.7 **12,385**	3.77 **1.150**	12.41 **3.782**
HZ 1080M A	20.60 **523.3**	20.63 **524.1**	21.96 **557.7**	21.99 **558.5**	18.14 **460.9**	20.27 **514.9**	132.18 **852.8**	449.84 **669.4**	40817.8 **1,698,970**	15717.1 **654200**	1978.2 **32,415**	1859.0 **30465**	775.4 **12,705**	3.73 **1.136**	13.81 **4.209**
HZ 1080M B	20.72 **526.3**	20.75 **527.1**	21.96 **557.7**	21.99 **558.5**	18.14 **460.9**	20.27 **514.9**	139.21 **898.1**	473.75 **705.0**	43857.5 **1,825,490**	16443.3 **684420**	2113.5 **34,635**	1997.4 **32730**	811.2 **13,295**	3.73 **1.138**	13.82 **4.212**
HZ 1080M C	20.84 **529.4**	20.87 **530.1**	21.96 **557.8**	21.99 **558.5**	18.22 **462.9**	20.35 **516.9**	152.23 **982.1**	518.07 **771.0**	47625.5 **1,982,330**	17808.3 **741240**	2282.2 **37,400**	2168.8 **35540**	875.2 **14,340**	3.74 **1.141**	13.83 **4.215**
HZ 1080M D	21.00 **533.4**	21.02 **534.0**	21.96 **557.8**	21.99 **558.5**	18.26 **463.9**	20.39 **517.9**	162.77 **1050.1**	553.94 **824.4**	51296.2 **2,135,120**	18876.0 **785680**	2439.8 **39,980**	2335.9 **38280**	925.9 **15,170**	3.75 **1.142**	13.83 **4.216**
HZ 1180M A	21.16 **537.4**	21.18 **538.0**	21.96 **557.8**	21.99 **558.4**	18.30 **464.9**	20.43 **518.9**	171.20 **1104.5**	582.61 **867.0**	54060.7 **2,250,190**	19721.2 **820860**	2552.3 **41,825**	2461.7 **40340**	965.4 **15,820**	3.75 **1.144**	13.84 **4.217**
HZ 1180M B	21.24 **539.4**	21.26 **540.0**	21.96 **557.8**	21.99 **558.4**	18.30 **464.9**	20.43 **518.8**	176.16 **1136.5**	599.51 **892.2**	56293.6 **2,343,130**	20256.9 **843160**	2647.9 **43,390**	2563.3 **42005**	991.7 **16,250**	3.76 **1.147**	13.85 **4.221**
HZ 1180M C	21.41 **543.9**	21.24 **539.5**	22.17 **563.2**	22.00 **558.8**	18.38 **466.9**	20.51 **520.9**	189.07 **1219.8**	643.42 **957.5**	60979.6 **2,538,170**	22216.2 **924710**	2847.8 **46,665**	2750.2 **45070**	1083.4 **17,755**	3.82 **1.164**	13.97 **4.259**
HZ 1180M D	21.49 **545.8**	21.32 **541.6**	22.17 **563.1**	22.00 **558.9**	18.42 **467.9**	20.55 **521.9**	196.63 **1268.6**	669.18 **995.9**	63411.7 **2,639,410**	23041.8 **959080**	2951.0 **48,360**	2860.4 **46875**	1121.5 **18,380**	3.86 **1.176**	14.01 **4.271**

* Respecto al exterior del patín de la HZ®-M (el mayor valor de v_1; v_2), ** Respecto al exterior del conector (el mayor valor de v_3; v_4)

Grados de Acero Disponibles

ESTADOS UNIDOS			CANADÁ			EUROPA		
ASTM	Esfuerzo de Fluencia		ASTM	Esfuerzo de Fluencia		ASTM	Esfuerzo de Fluencia	
	ksi	MPa		ksi	MPa		ksi	MPa
A328	39	270	Grado 260 W	38	260	S240 GP	35	240
A572 Grado 42	42	290	Grado 300 W	43	297	S270 GP	39	270
A572 Grado 50	50	345	Grado 355 W	51	355	S320 GP	46	315
A572 Grado 55	55	380	Grado 400 W	58	400	S355 GP	51	355
A572 Grado 60	60	415				S390 GP	57	390
A572 Grado 65**	65	450				S430 GP	62	430
A690**	50	345				S460 AP**	67	460
A690*	57	390						

* No disponible para AZ 48/50/52-700, HZ 1080M C-D, y HZ 1180M A-D. ** No disponible para HZ 1180M C-D.

Condiciones de Entrega y Tolerancias

SECCIONES HZ®-M y AZ	ASTM A6		EN 10248	
Peso	± 2.5%		± 5%	
Largo	+ 5 in.	– 0 in.	± 200 mm	
Altura			± 5 mm	
Ancho (individual)			± 2%	
Ancho (par)			± 3%	
Rectitud			0.2% de la longitud	
Descuadre			± 2% del ancho	
Tablestacas AZ				
Espesor			≤ 8.5 mm	± 0.5 mm
			> 8.5 mm	± 6%
Pilotes HZ®-M				
Espesor			≤ 12.5 mm	+ 2.0, -1.0 mm
			> 12.5	+ 2.5, -1.5 mm

Longitud Máxima de Rolado†

HZ®-M	108.3 ft.	33.0 m	
AZ	101.7 ft.	31.0 m	
RZD/RZU	78.7 ft.	24.0 m	(El largo no restringe la altura del muro)
RH	78.7 ft.	24.0 m	(El largo no restringe la altura del muro)

† Mayores longitudes pueden ser posibles bajo pedido.