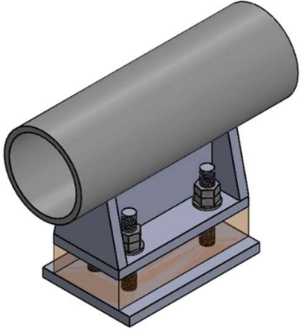
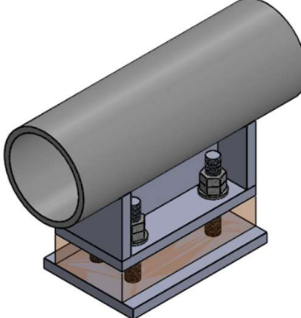
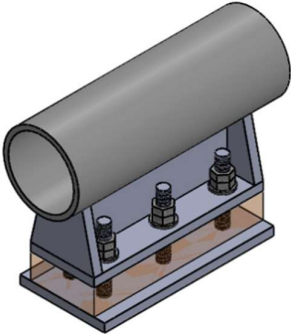
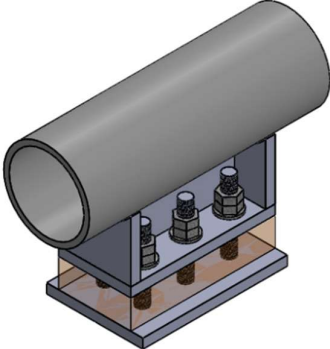
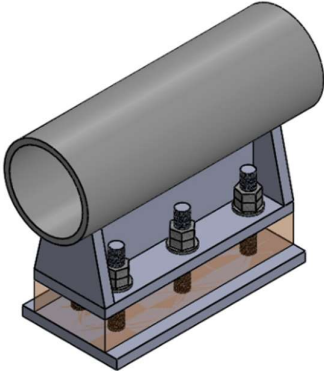
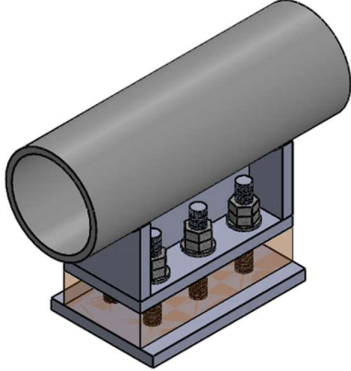
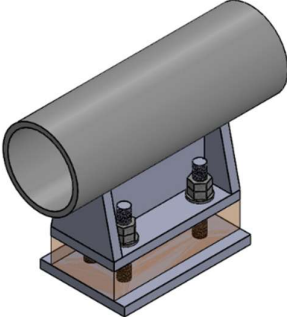
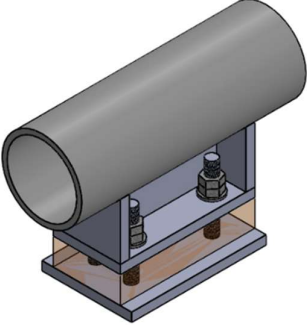
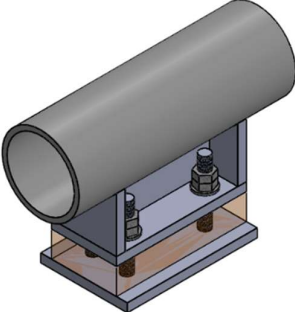
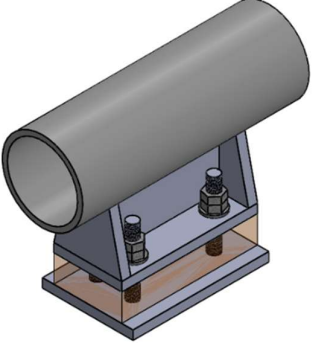
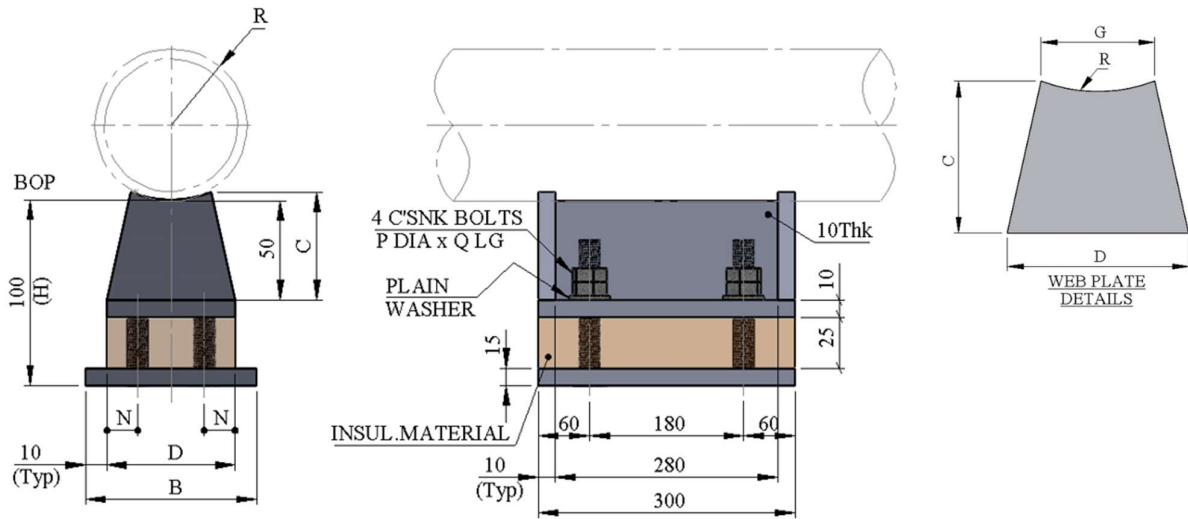


22	Cold Service Welded Shoes Without Wear Plate	
22.1	<p>T-SH-210 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , 300mm Long</p> 	<p>22.4 T-SH-213 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 12" - 36" , 300mm Long</p> 
22.2	<p>T-SH-211 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , 400mm Long</p> 	<p>22.5 T-SH-214 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 12" - 36" , 400mm Long</p> 
22.3	<p>T-SH-212 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , 500mm Long</p> 	<p>22.6 T-SH-215 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 12" - 36" , 500mm Long</p> 

22	Cold Service Welded Shoes Without Wear Plate 100 mm High	
22.7	T-SH-216 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 2" - 10" , 300mm Long	22.10 T-SH-219 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 12" - 36" , 300mm Long
22.8	T-SH-217 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 2" - 10" , 400mm Long	22.11 T-SH-220 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 12" - 36" , 400mm Long
22.9	T-SH-218 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 2" - 10" , 500mm Long	22.12 T-SH-221 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES 12" - 36" , 500mm Long

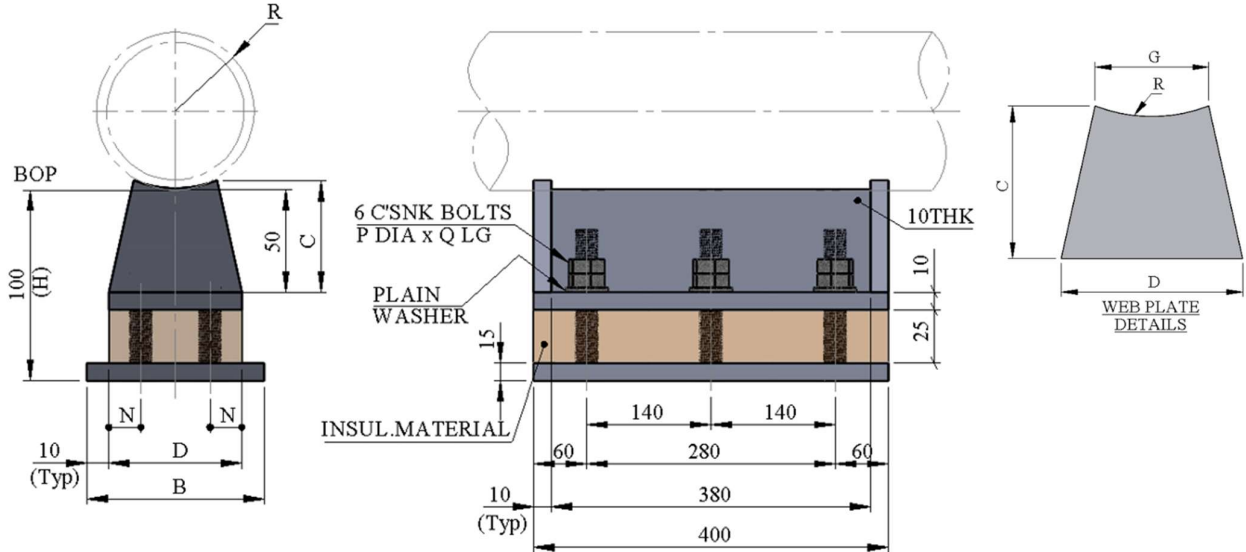
22	Cold Service Welded Shoes Without Wear Plate		
22.7	<p>T-SH-953 SPECIAL COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , (LENGTH & HEIGHT DEFINABLE)</p> 	22.10	<p>T-SH-956 SPECIAL COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 12" - 36" , (LENGTH & HEIGHT DEFINABLE)</p> 
22.8	<p>T-SH-954 SPECIAL COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , (LENGTH & HEIGHT DEFINABLE)</p> 		
22.9	<p>T-SH-955 SPECIAL COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES 2" - 10" , (LENGTH & HEIGHT DEFINABLE)</p> 		

22.1 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES
50- 250mm / 2" - 10" , 100mm HIGH - 300mm LONG
SH - 210


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-210-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-210-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-210-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMPRESSIVE	LIFTING	LATERAL	SS
T-SH-210-0050	DN 50	2"	60.3	120	58	100	40	20	16	75	30	150	104	45	10.60
T-SH-210-0080	DN 80	3"	88.9	120	74	100	80	20	16	75	44	150	104	45	10.81
T-SH-210-0100	DN 100	4"	114.3	120	80	100	100	20	16	75	57	150	104	45	10.93
T-SH-210-0125	DN 125	5"	141.3	120	71	100	100	20	16	75	71	150	104	45	10.89
T-SH-210-0150	DN 150	6"	168.3	120	67	100	100	20	16	75	84	150	104	45	10.88
T-SH-210-0200	DN 200	8"	219.1	120	62	100	100	20	16	75	109	150	104	45	10.85
T-SH-210-0250	DN 250	10"	273.0	170	72	150	150	25	20	80	137	225	160	70	15.25

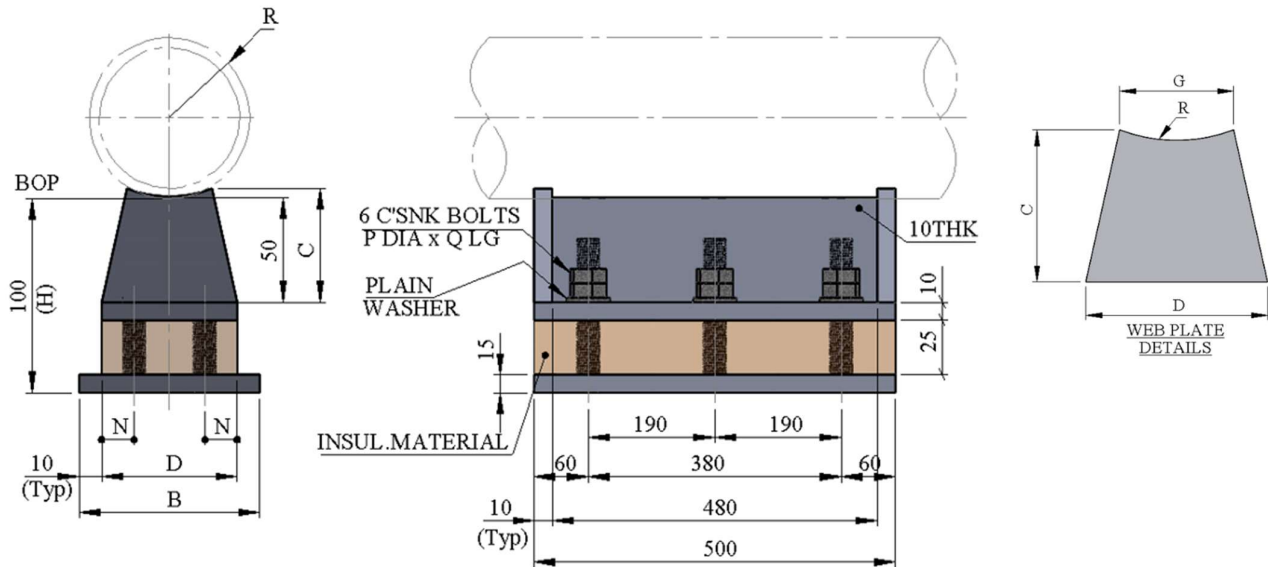
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.2 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10", 100mm HIGH - 400mm LONG
SH -211


TYPEICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPRETURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-211-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-211-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-211-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMP.	LIFTING	LATERAL	SS
T-SH-211-0050	DN 50	2"	60.3	120	58	100	40	20	16	75	30	200	104	45	14.12
T-SH-211-0080	DN 80	3"	88.9	120	74	100	80	20	16	75	44	200	104	45	14.34
T-SH-211-0100	DN 100	4"	114.3	120	80	100	100	20	16	75	57	200	104	45	14.45
T-SH-211-0125	DN 125	5"	141.3	120	71	100	100	20	16	75	71	200	104	45	14.42
T-SH-211-0150	DN 150	6"	168.3	120	67	100	100	20	16	75	84	200	104	46	14.40
T-SH-211-0200	DN 200	8"	219.1	120	62	100	100	20	16	75	109	200	104	48	14.37
T-SH-211-0250	DN 250	10"	273.0	170	72	150	150	25	20	80	137	300	160	70	20.13

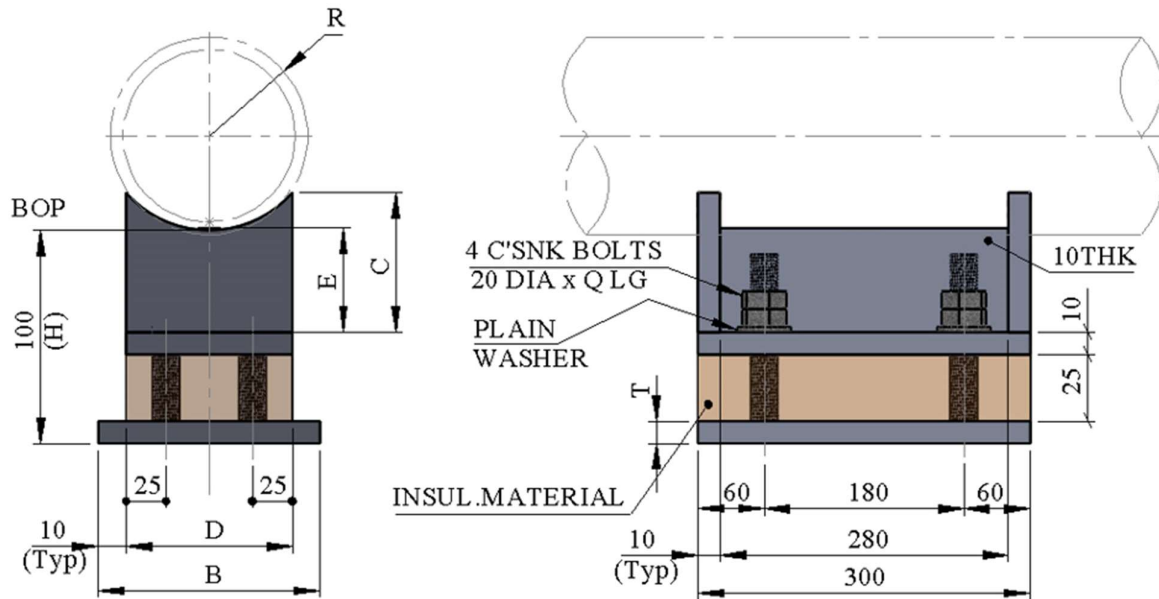
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.3 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10", 100mm HIGH - 500mm LONG
SH -212


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-212-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-212-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-212-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMP.	LIFTING	LATERAL	SS
T-SH-212-0050	DN 50	2"	60.3	120	58	100	40	20	16	75	30	250	160	45	17.2
T-SH-212-0080	DN 80	3"	88.9	120	74	100	80	20	16	75	44	250	160	45	17.4
T-SH-212-0100	DN 100	4"	114.3	120	80	100	100	20	16	75	57	250	160	45	17.6
T-SH-212-0125	DN 125	5"	141.3	120	71	100	100	20	16	75	71	250	160	45	17.5
T-SH-212-0150	DN 150	6"	168.3	120	67	100	100	20	16	75	84	250	160	46	17.5
T-SH-212-0200	DN 200	8"	219.1	120	62	100	100	20	16	75	109	250	160	48	17.5
T-SH-212-0250	DN 250	10"	273.0	170	72	150	150	25	20	80	137	375	240	70	24.5

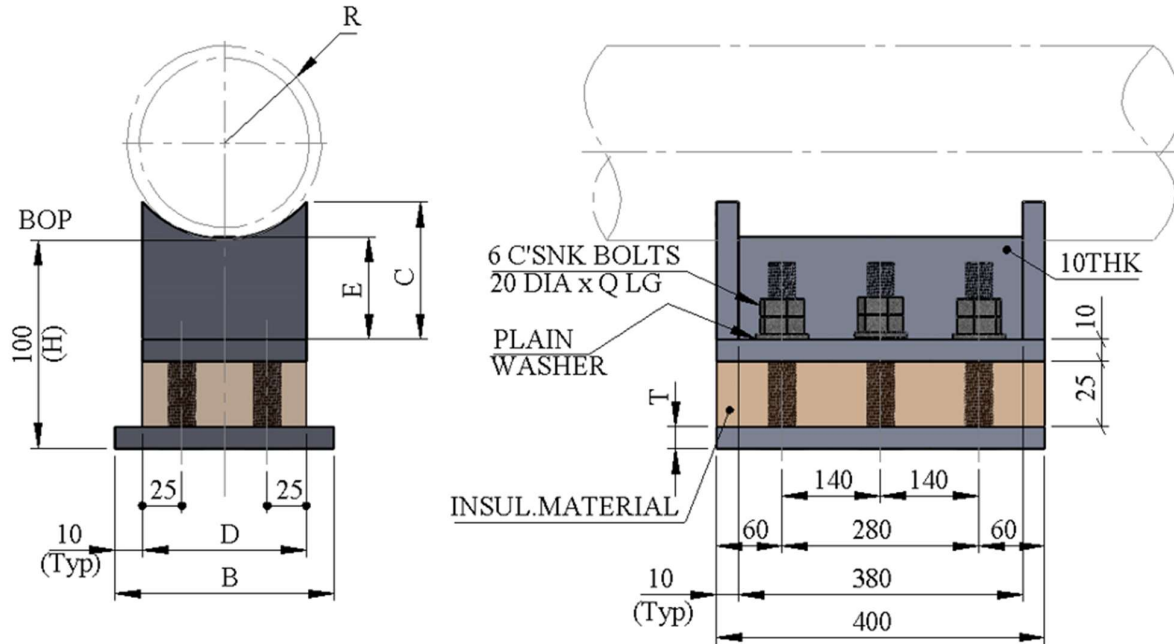
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.4 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36", 100mm HIGH -300mm LONG
SH - 213


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-213-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-213-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-213-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMP.	LIFTING	LATERAL	SS
T-SH-213-0300	DN 300	12"	323.8	170	68	150	50	80	162	15	225	160	70	15.2
T-SH-213-0350	DN 350	14"	355.6	220	81	200	50	80	178	15	300	160	85	19.5
T-SH-213-0400	DN 400	16"	406.4	220	76	200	50	80	203	15	300	160	85	19.4
T-SH-213-0450	DN 450	18"	457.2	270	87	250	50	80	229	15	375	160	96	23.7
T-SH-213-0500	DN 500	20"	508.0	270	78	250	45	85	254	20	375	160	96	26.6
T-SH-213-0600	DN 600	24"	609.6	270	72	250	45	85	305	20	375	160	96	26.6
T-SH-213-0750	DN 750	30"	762.0	370	88	350	45	85	381	20	525	160	104	36.3
T-SH-213-0900	DN 900	36"	914.4	420	91	400	45	85	457	20	600	160	112	41.1

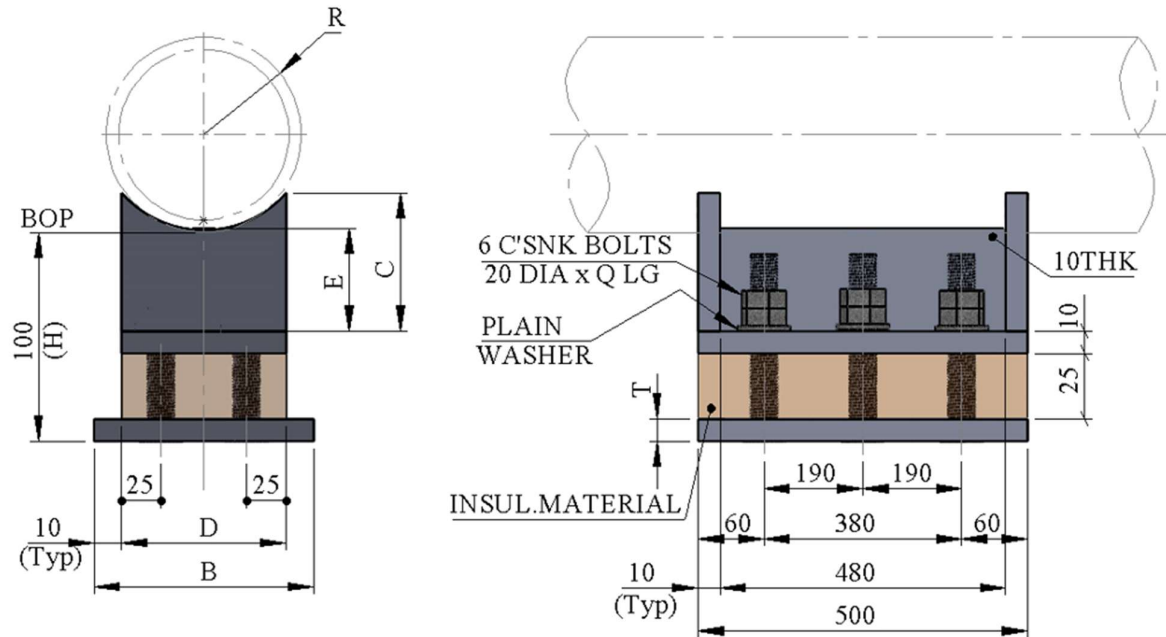
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.5 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36", 100mm HIGH - 400mm LONG
SH - 214


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-214-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-214-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-214-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMP.	LIFTING	LATERAL	SS
T-SH-214-0300	DN 300	12"	323.8	170	68	150	50	80	162	15	300	240	75	20.1
T-SH-214-0350	DN 350	14"	355.6	220	81	200	50	80	178	15	400	240	90	25.6
T-SH-214-0400	DN 400	16"	406.4	220	76	200	50	80	203	15	400	240	90	25.6
T-SH-214-0450	DN 450	18"	457.2	270	87	250	50	80	229	15	500	240	105	31.1
T-SH-214-0500	DN 500	20"	508.0	270	78	250	45	85	254	20	500	240	105	35.0
T-SH-214-0600	DN 600	24"	609.6	270	72	250	45	85	305	20	500	240	105	34.9
T-SH-214-0750	DN 750	30"	762.0	370	88	350	45	85	381	20	700	240	120	47.6
T-SH-214-0900	DN 900	36"	914.4	420	91	400	45	85	457	20	800	240	130	53.8

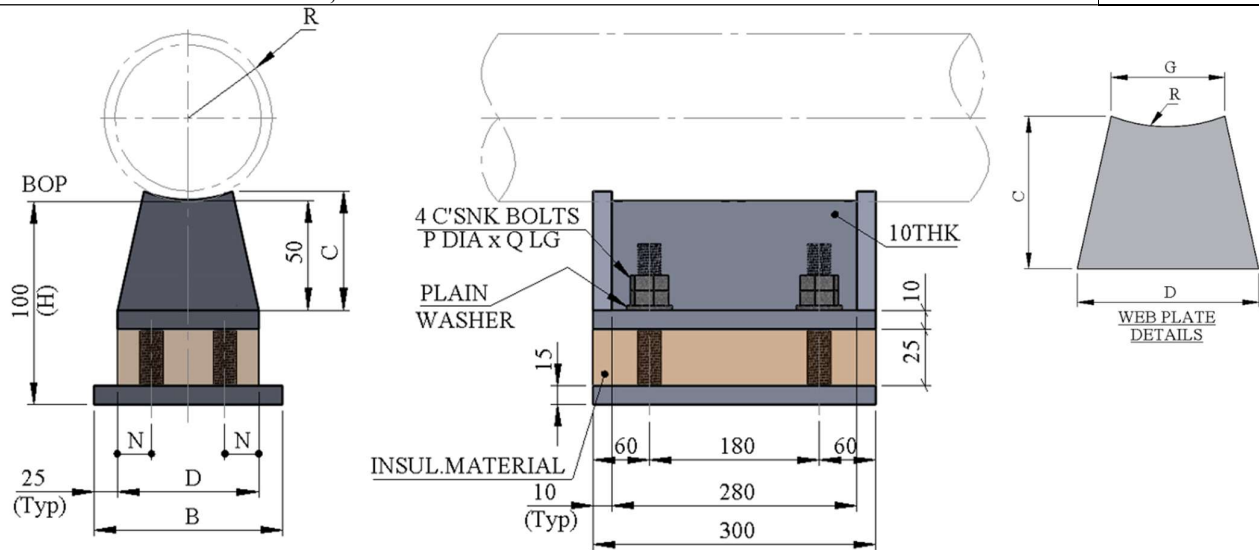
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.6 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36" , 100mm HIGH - 500mm LONG
SH - 215


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-215-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-215-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-215-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMP.	LIFTING	LATERAL	SS
T-SH-215-0300	DN 300	12"	323.8	170	68	150	50	80	162	15	375	240	75	24.4
T-SH-215-0350	DN 350	14"	355.6	220	81	200	50	80	178	15	500	240	90	31.2
T-SH-215-0400	DN 400	16"	406.4	220	76	200	50	80	203	15	500	240	90	31.1
T-SH-215-0450	DN 450	18"	457.2	270	87	250	50	80	229	15	625	240	104	37.9
T-SH-215-0500	DN 500	20"	508.0	270	78	250	45	85	254	20	625	240	104	42.8
T-SH-215-0600	DN 600	24"	609.6	270	72	250	45	85	305	20	625	240	104	42.8
T-SH-215-0750	DN 750	30"	762.0	370	88	350	45	85	381	20	875	240	120	58.3
T-SH-215-0900	DN 900	36"	914.4	420	91	400	45	85	457	20	1000	240	130	65.9

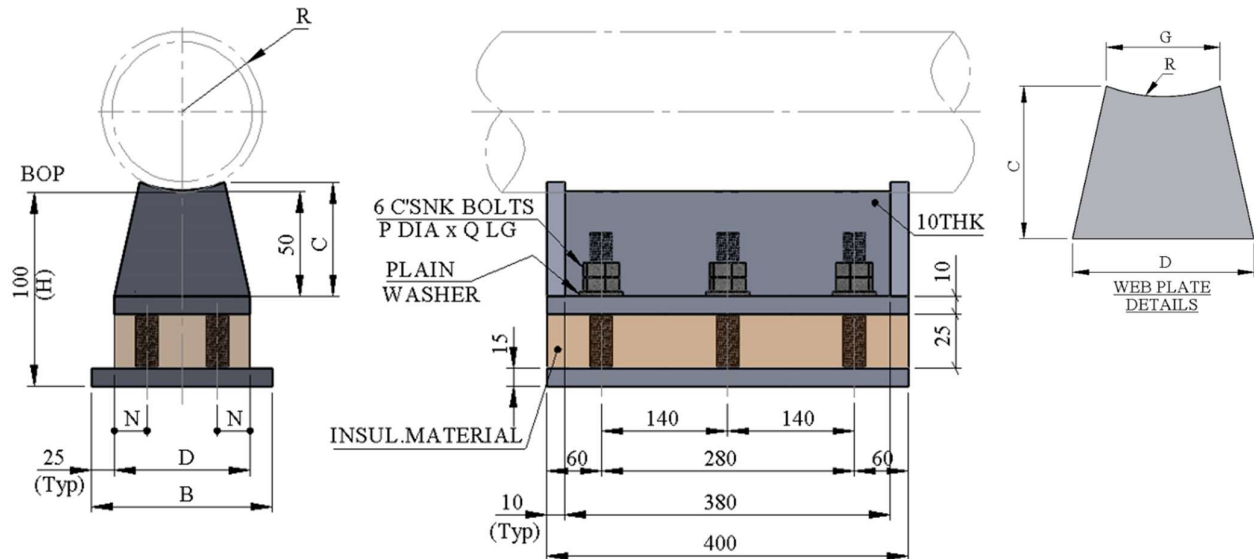
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT
 Blocks must be supported over at least 25% of base
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.7 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10", 100mm HIGH - 500mm LONG
SH - 216


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-216-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-216-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-216-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMPRESSIVE	LIFTING	LATERAL	SS
T-SH-216-0050	DN 50	2"	60.3	150	58	100	40	20	16	75	30	150	65	40	11.7
T-SH-216-0080	DN 80	3"	88.9	150	75	100	80	20	16	75	44	150	65	40	11.9
T-SH-216-0100	DN 100	4"	114.3	150	80	100	100	20	16	75	57	150	65	40	12.0
T-SH-216-0125	DN 125	5"	141.3	150	71	100	100	20	16	75	71	150	65	40	12.0
T-SH-216-0150	DN 150	6"	168.3	150	67	100	100	20	16	75	84	150	65	40	12.0
T-SH-216-0200	DN 200	8"	219.1	150	62	100	100	20	16	75	110	150	65	40	11.9
T-SH-216-0250	DN 250	10"	273.0	200	72	150	150	25	20	80	137	225	100	63	16.3

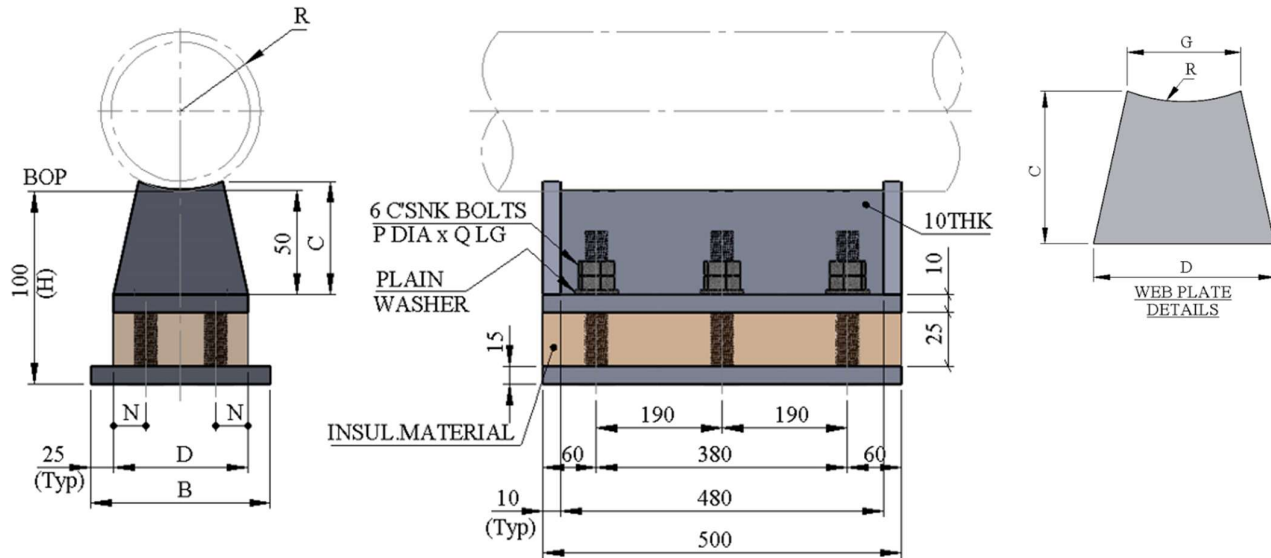
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT
 Blocks must be supported over at least 25% of base
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.8 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10", 100mm HIGH - 400mm LONG
SH - 217


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-217-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-217-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-217-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMPRESSIVE	LIFTING	LATERAL	
T-SH-217-0050	DN 50	2"	60.3	150	58	100	40	20	16	75	30	200	65	40	15.6
T-SH-217-0080	DN 80	3"	88.9	150	75	100	80	20	16	75	44	200	65	40	15.8
T-SH-217-0100	DN 100	4"	114.3	150	80	100	100	20	16	75	57	200	65	40	15.9
T-SH-217-0125	DN 125	5"	141.3	150	71	100	100	20	16	75	71	200	65	40	15.9
T-SH-217-0150	DN 150	6"	168.3	150	67	100	100	20	16	75	84	200	65	40	15.8
T-SH-217-0200	DN 200	8"	219.1	150	62	100	100	20	16	75	110	200	65	40	15.8
T-SH-217-0250	DN 250	10"	273.0	200	72	150	150	25	20	80	137	200	100	63	21.6

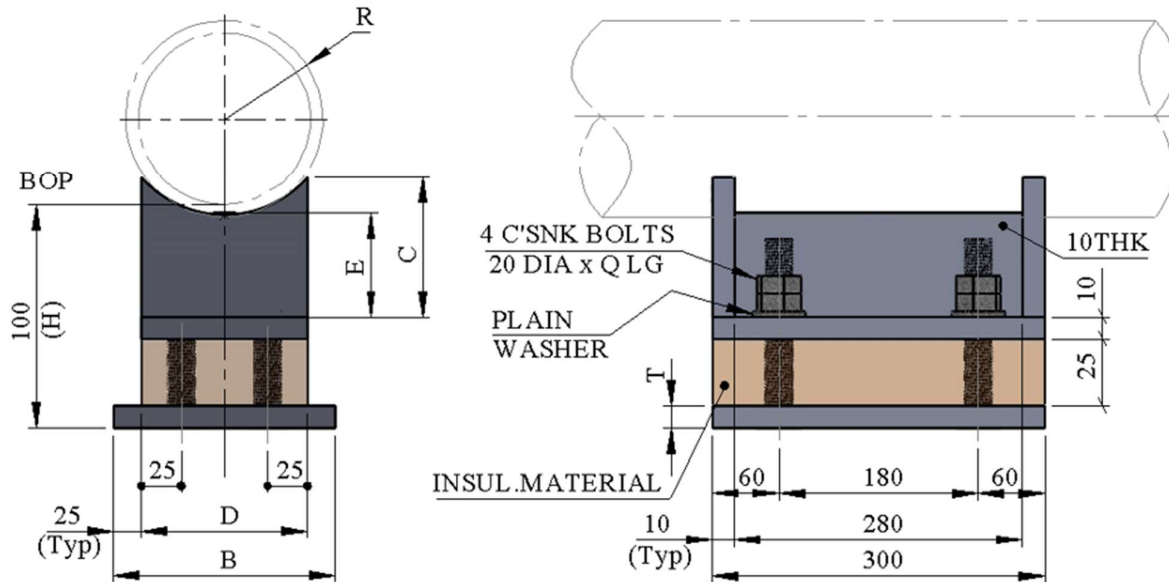
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.9 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10" , 100mm HIGH - 500mm LONG
SH - 218


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-218-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-218-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-218-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO/SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR BLOCK (kN)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	Q	R	COMPRESSIVE	LIFTING	LATERAL	SS
T-SH-218-0050	DN 50	2"	60.3	150	58	100	40	20	16	75	30	250	100	61	19.0
T-SH-218-0080	DN 80	3"	88.9	150	75	100	80	20	16	75	44	250	100	61	19.2
T-SH-218-0100	DN 100	4"	114.3	150	80	100	100	20	16	75	57	250	100	61	19.4
T-SH-218-0125	DN 125	5"	141.3	150	71	100	100	20	16	75	71	250	100	61	19.3
T-SH-218-0150	DN 150	6"	168.3	150	67	100	100	20	16	75	84	250	100	61	19.3
T-SH-218-0200	DN 200	8"	219.1	150	62	100	100	20	16	75	110	250	100	61	19.3
T-SH-218-0250	DN 250	10"	273.0	200	72	150	150	25	20	80	137	375	150	95	26.3

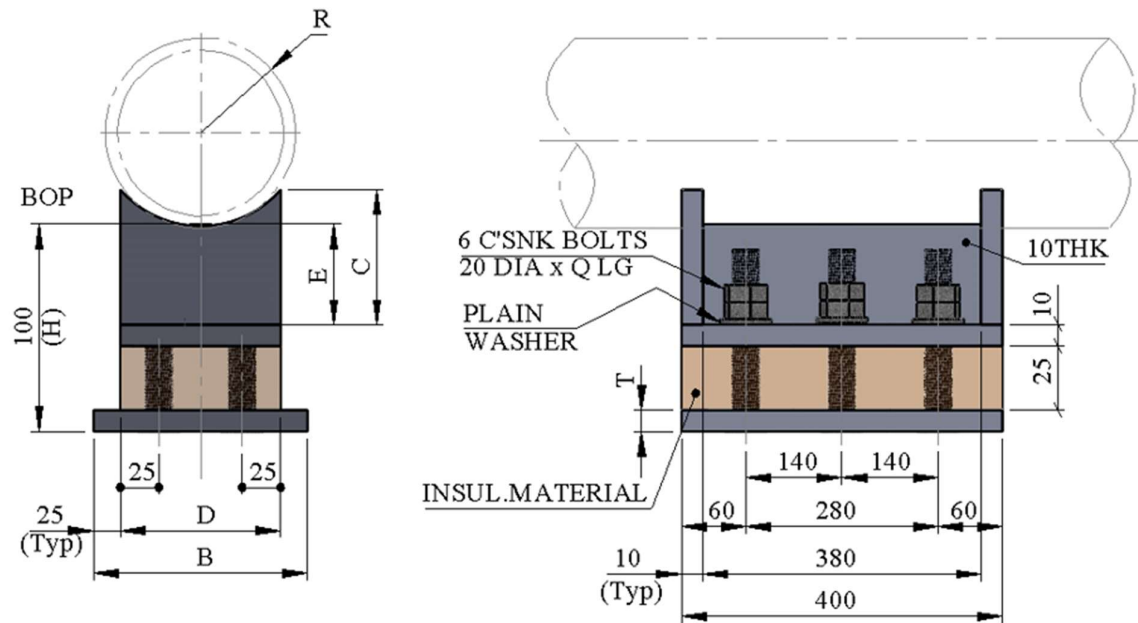
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6MO material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.10 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES
300- 900mm / 12" - 36" , 100mm HIGH - 300mm LONG
SH - 219


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-219-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-219-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-219-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO / SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							SAFE WORKING LOAD (kN) (MAX) (BLOCK)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMPRESSIVE	LIFTING	LATERAL	
T-SH-219-0300	DN 300	12"	323.8	200	68	150	30	80	162	15	225	100	63	15.9
T-SH-219-0350	DN 350	14"	355.6	250	81	200	30	80	178	15	300	100	63	20.1
T-SH-219-0400	DN 400	16"	406.4	250	76	200	30	80	203	15	300	100	63	20.1
T-SH-219-0450	DN 450	18"	457.2	250	87	200	30	80	229	15	375	100	63	22.6
T-SH-219-0500	DN 500	20"	508.0	300	70	250	35	85	254	20	375	100	63	27.5
T-SH-219-0600	DN 600	24"	609.6	300	72	250	35	85	305	20	375	100	63	27.8
T-SH-219-0750	DN 750	30"	762.0	400	88	350	35	85	381	20	525	100	63	37.5
T-SH-219-0900	DN 900	36"	914.4	450	91	400	35	85	457	20	600	100	63	42.3

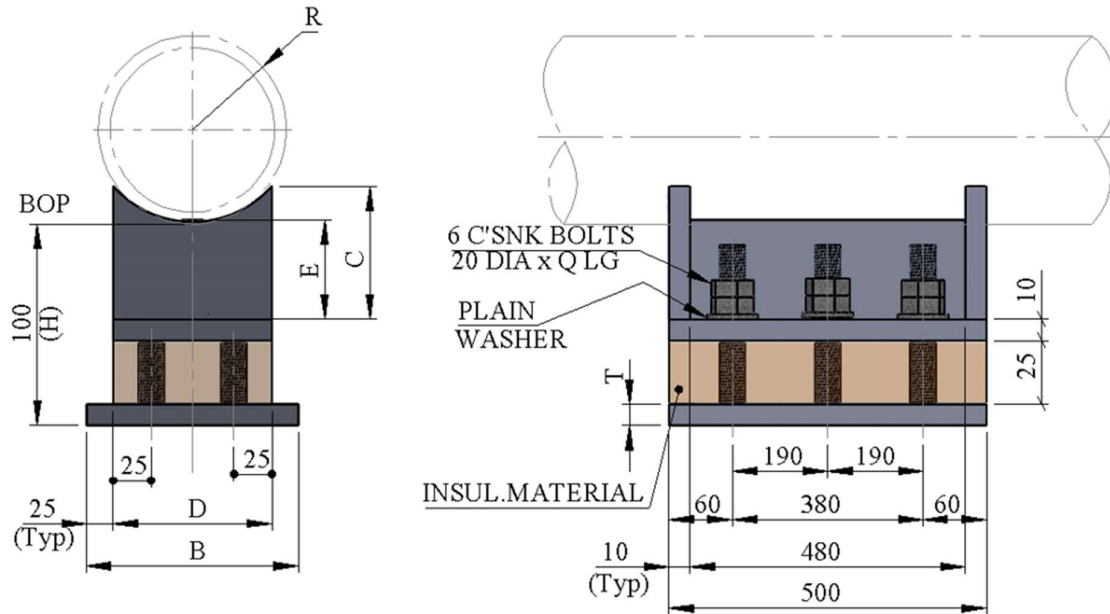
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6MO material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.11 COLD SERVICE WELDED SHOE FOR CS , SS & ALLOY LINES
300- 900mm / 12" - 36" , 100mm HIGH - 400mm LONG
SH - 220


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-220-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-220-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-220-(DN)-6MO/SS (SS BOTTOM PLATE)	6MO /SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR (kN) (BLOCK)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMPRESSIVE	LIFTING	LATERAL	SS
T-SH-220-0300	DN 300	12"	323.8	200	68	150	30	80	162	15	300	100	63	20.9
T-SH-220-0350	DN 350	14"	355.6	250	81	200	30	80	178	15	400	100	63	26.4
T-SH-220-0400	DN 400	16"	406.4	250	76	200	30	80	203	15	400	100	63	26.4
T-SH-220-0450	DN 450	18"	457.2	250	87	200	30	80	229	15	500	100	63	29.5
T-SH-220-0500	DN 500	20"	508.0	300	70	250	35	85	254	20	500	100	63	36.3
T-SH-220-0600	DN 600	24"	609.6	300	72	250	35	85	305	20	500	100	63	36.6
T-SH-220-0750	DN 750	30"	762.0	400	88	350	35	85	381	20	700	100	63	49.2
T-SH-220-0900	DN 900	36"	914.4	450	91	400	35	85	457	20	800	100	63	55.4

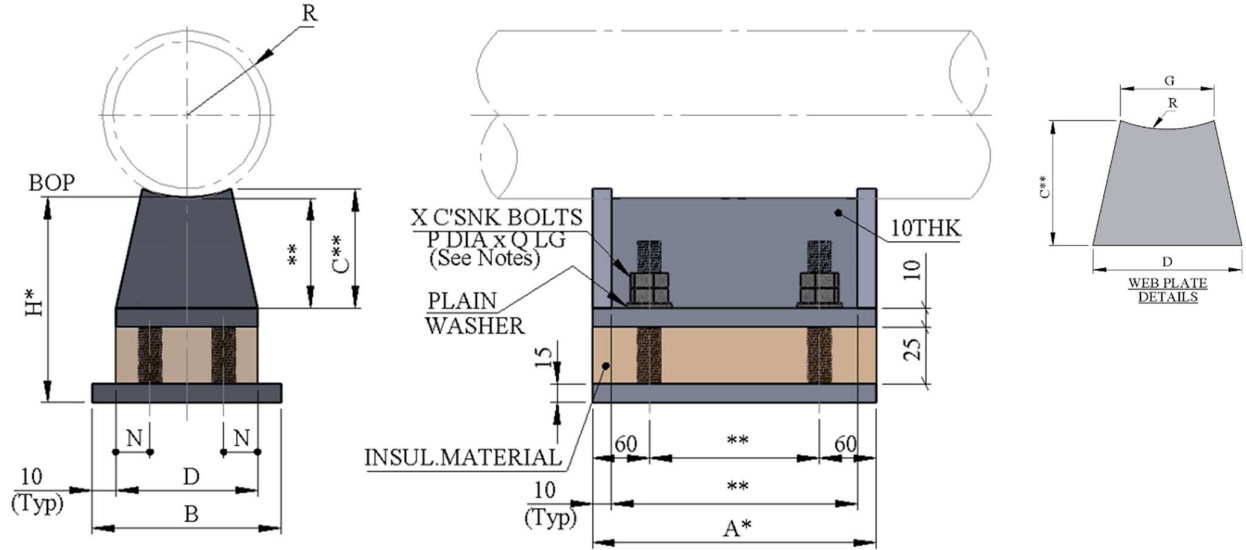
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6MO material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.12 COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36", 100mm HIGH - 500mm LONG
SH - 221


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-221-(DN)-SS/CS (CS BOTTOM PLATE)	SS / CS	160 °C	(-) 196 °C
T-SH-221-(DN)-SS	SS	160 °C	(-) 196 °C
T-SH-221-(DN)-6Mo/SS (SS BOTTOM PLATE)	6Mo /SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR (kN) (BLOCK)			WEIGHTS in kg
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	COMP	LIFTING	LATERAL	SS
T-SH-221-0300	DN 300	12"	323.8	200	68	150	30	80	162	15	375	100	63	25.5
T-SH-221-0350	DN 350	14"	355.6	250	81	200	30	80	178	15	500	100	63	32.2
T-SH-221-0400	DN 400	16"	406.4	250	76	200	30	80	203	15	500	100	63	32.1
T-SH-221-0450	DN 450	18"	457.2	250	87	200	30	80	229	15	625	100	63	35.9
T-SH-221-0500	DN 500	20"	508.0	300	70	250	35	85	254	20	625	100	63	44.5
T-SH-221-0600	DN 600	24"	609.6	300	72	250	35	85	305	20	625	100	63	44.8
T-SH-221-0750	DN 750	30"	762.0	400	88	350	35	85	381	20	875	100	63	60.3
T-SH-221-0900	DN 900	36"	914.4	450	91	400	35	85	457	20	1000	100	63	67.9

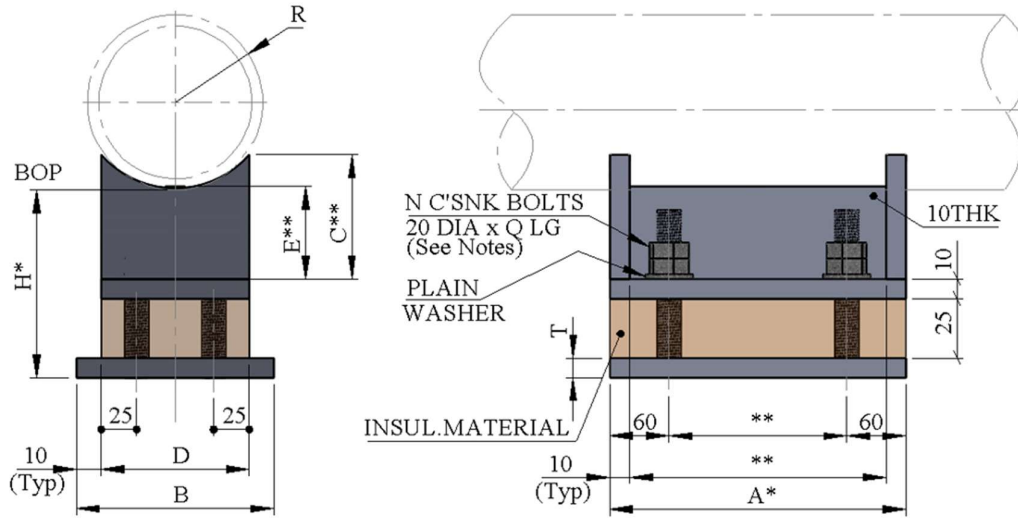
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 SS and 6Mo material shoes. Shoe to Pipe welds to be impact tested.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Std. type includes all bolts, plain washers, and double nuts. bolts to have a minimum over length of 3 threads.

22.13 SPECIAL COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2" - 10" , - (LENGTH & HEIGHT DEFINABLE)
SH - 953


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-953-(DN)-SS/CS #A=(DIM)H=(DIM) (CS BOTTOM PL)	SS / CS	160 °C	(-) 196 °C
T-SH-953-(DN)-SS #A=(DIM)H=(DIM)	SS	160 °C	(-) 196 °C
T-SH-953-(DN)-6MO /SS#A=(DIM)H=(DIM) (SS BOTTOM PL)	6MO / SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD FOR (BLOCK) (kN)				WEIGHTS in kg	
												COMPRESSIVE		LIFTING (SEE NOTES)			LATERAL (SEE NOTES)
	DN (mm)	NP S in (in ch)	NPS in (mm)	B	C	D	G	N	P	Q	R	A= 300 & 400	A= 500	H= 100	H= 150		SS
T-SH-953-0050	DN 50	2"	60.3	120	*	100	40	20	16	75	30	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0080	DN 80	3"	88.9	120	*	100	80	20	16	75	44	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0100	DN 100	4"	114.3	120	*	100	100	20	16	75	57	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0125	DN 125	5"	141.3	120	*	100	100	20	16	75	71	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0150	DN 150	6"	168.3	120	*	100	100	20	16	75	84	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0200	DN 200	8"	219.1	120	*	100	100	20	16	75	109	0,5 x DIM A	104	160	45	40	TBA
T-SH-953-0250	DN 250	10"	273.0	170	*	150	150	25	20	80	137	0,75 x DIM A	160	240	70	63	TBA

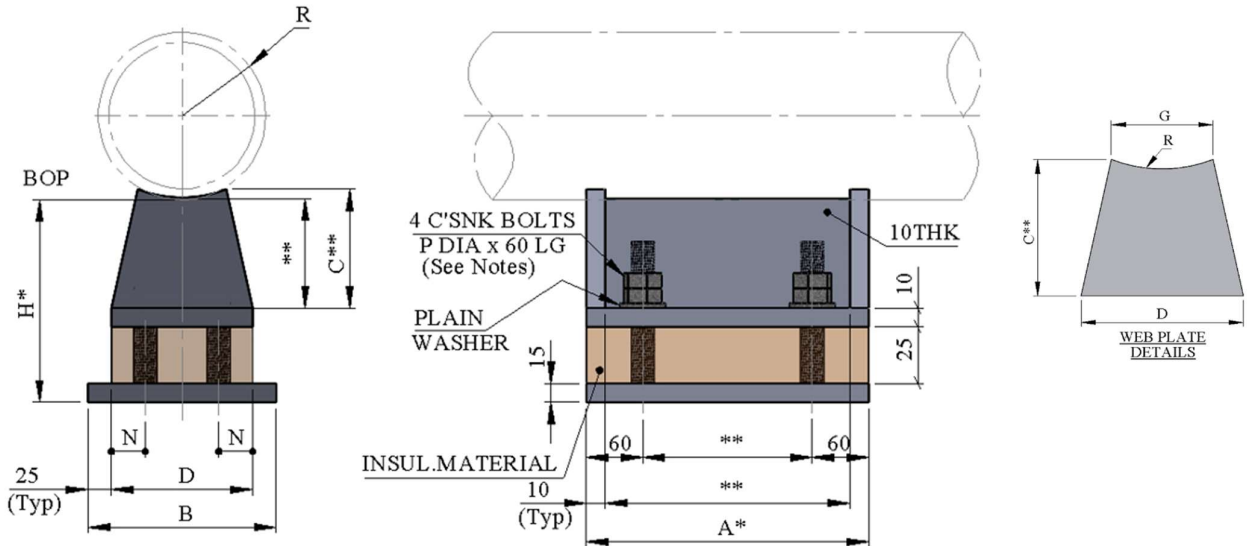
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 For standard shoes sizes see SH-210, 211, 212 & SH-510, SH511, SH 512.
 Only dimensions marked * (Length & Height) can vary from standard shoe sizes. other effected dimensions
 Marked ** to be calculated by manufacturer.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Bolting No. off (DIM X): 4 off (DIM A 250 - 349) , 6 off (DIM A 350 - 549) , 8 off (DIM A 550 and above)
 Bolting length (DIM Q): Refer back to nearest standard shoe for sizes.
 Bolting Dia. (DIM P) : Refer back to nearest standard shoe for sizes.
 Extrapolate Lateral and Lifting Loads for Other Dim A and H Sizes.
 Std. Type includes all bolts, plain washers and double nuts. Bolts to have a minimum over length of 3 threads

22.14 SPECIAL COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36" , (LENGTH & HEIGHT DEFINABLE)
SH - 954


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-954-(DN)-SS/CS #A=(DIM)H=(DIM) (CS BOTTOM PL)	SS / CS	160 °C	(-) 196 °C
T-SH-954-(DN)-SS #A=(DIM)H=(DIM)	SS	160 °C	(-) 196 °C
T-SH-954-(DN)-6MO /SS#A=(DIM)H=(DIM) (SS BOTTOM PL)	6MO / SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS								MAX SAFE WORKING LOAD (BLOCK) (kN)					WEIGHTS in kg
												COMP.			LIFTING (SEE NOTES)		
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T	A= 300	A= 400	A= 500	H= 100	H= 150	SS	
T-SH-954-0300	DN 300	12"	323.8	170	*	150	*	60	162	15	0,75 x DIM A	160	240	240	70	63	TBA
T-SH-954-0350	DN 350	14"	355.6	220	*	200	*	60	178	15	1,0 x DIM A	160	240	240	70	63	TBA
T-SH-954-0400	DN 400	16"	406.4	220	*	200	*	60	203	15	1,0 x DIM A	160	240	240	70	63	TBA
T-SH-954-0450	DN 450	18"	457.2	270	*	250	*	60	229	15	1,25 x DIM A	160	240	240	70	63	TBA
T-SH-954-0500	DN 500	20"	508.0	270	*	250	*	65	254	20	1,25 x DIM A	160	240	240	70	63	TBA
T-SH-954-0600	DN 600	24"	609.6	270	*	250	*	65	305	20	1,25 x DIM A	160	240	240	70	63	TBA
T-SH-954-0750	DN 750	30"	762.0	370	*	350	*	65	381	20	1,75 x DIM A	160	240	240	70	63	TBA
T-SH-954-0900	DN 900	36"	914.4	420	*	400	*	65	457	20	2,0 x DIM A	160	240	240	70	63	TBA

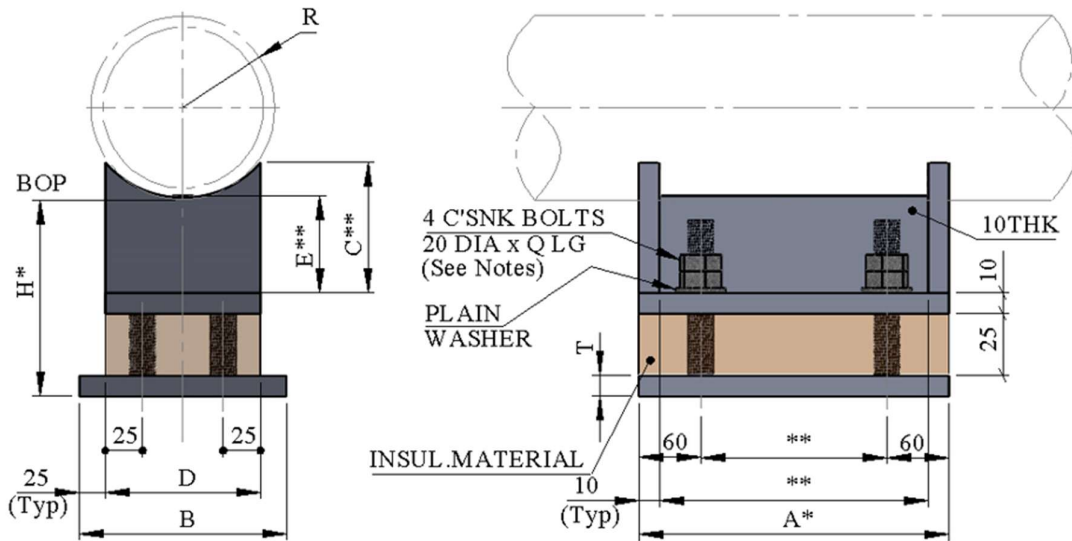
Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 For standard shoes sizes see SH-213, 214, 215 & SH-513, SH514, SH 515.
 Only dimensions marked * (Length & Height) can vary from standard shoe sizes. other effected dimensions Marked ** to be calculated by manufacturer.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Bolting No. off (DIM N) : 4 off (DIM A 250 - 349) , 6 off (DIM A 350 - 549) , 8 off (DIM A 550 and above)
 Bolting length (DIM Q): Refer back to nearest standard shoe for sizes.
 Bolting Dia. (DIM P) : Refer back to nearest standard shoe for sizes.
 Extrapolate Lateral and Lifting Loads for Other Dim H Sizes.
 Std. Type includes all bolts, plain washers and double nuts. Bolts to have a minimum over length of 3 threads

22.15 SPECIAL COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
50- 250mm / 2"- 10", (LENGTH & HEIGHT DEFINABLE)
SH - 955


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-955-(DN)-SS/CS #A=(DIM)H=(DIM) (CS BOTTOM PL)	SS / CS	160 °C	(-) 196 °C
T-SH-955-(DN)-SS #A=(DIM)H=(DIM)	SS	160 °C	(-) 196 °C
T-SH-955-(DN)-6MO /SS#A=(DIM)H=(DIM) (SS BOTTOM PL)	6MO / SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR (kN) (BLOCK)			WEIGHTS in kg	
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	G	N	P	R	COMP.	LATERAL (SEE NOTES)			
												LIFTING	H=100	H=150	
T-SH-955-0050	DN 50	2"	60.3	150	**	100	40	20	16	30	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0080	DN 80	3"	88.9	150	**	100	80	20	16	44	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0100	DN 100	4"	114.3	150	**	100	100	20	16	57	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0125	DN 125	5"	141.3	150	**	100	100	20	16	71	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0150	DN 150	6"	168.3	150	**	100	100	20	16	84	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0200	DN 200	8"	219.1	150	**	100	100	20	16	110	0,5 x DIM A	65	45	40.5	TBA
T-SH-955-0250	DN 250	10"	273.0	200	**	150	150	25	20	137	0,75 x DIM A	100	70	63	TBA

Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT
 Blocks must be supported over at least 25% of base.
 For standard shoes sizes see SH-216, 217, 218 & SH-516, SH517 , SH 518.
 Only dimensions marked * (Length & Height) can vary from standard shoe sizes. other effected dimensions
 Marked ** to be calculated by manufacturer.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Bolting information (No. off, centres) is dependent/related to Dim A. Refer back to nearest standard shoe
 For design guidelines. Bolt centres (along shoe length) approx. max/min = 200/120.
 Extrapolate Lateral Loads for Other Dim H Sizes.
 Std. Type includes all bolts, plain washers and double nuts. Bolts to have a minimum over length of 3 threads

22.16 SPECIAL COLD SERVICE WELDED SHOE FOR CS, SS & ALLOY LINES
300- 900mm / 12" - 36", (LENGTH & HEIGHT DEFINABLE)
SH - 956


TYPICAL PART NUMBER	AVAILABLE MATERIAL SHORT CODE	STD DETAIL TEMPERATURE LIMITATION	
		MAX. DESIGN TEMP	MIN. DESIGN TEMP
T-SH-956-(DN)-SS/CS #A=(DIM)H=(DIM) (CS BOTTOM PL)	SS / CS	160 °C	(-) 196 °C
T-SH-956-(DN)-SS #A=(DIM)H=(DIM)	SS	160 °C	(-) 196 °C
T-SH-956-(DN)-6MO /SS#A=(DIM)H=(DIM) (SS BOTTOM PL)	6MO / SS	165 °C	(-) 196 °C

TYPE	LINE SIZE			SHOE DIMENSIONS							MAX SAFE WORKING LOAD FOR (kN) (BLOCK)				WEIGHTS in kg
											COMP.	LIFTING	LATERAL (SEE NOTES)		
	DN (mm)	NPS in (inch)	NPS in (mm)	B	C	D	E	Q	R	T			H=100	H=150	SS
T-SH-956-0300	DN 300	12"	323.8	200	**	150	**	60	162	15	0,75 x DIM A	100	70	63	TBA
T-SH-956-0350	DN 350	14"	355.6	250	**	200	**	60	178	15	1,0 x DIM A	100	70	63	TBA
T-SH-956-0400	DN 400	16"	406.4	250	**	200	**	60	203	15	1,0 x DIM A	100	70	63	TBA
T-SH-956-0450	DN 450	18"	457.2	250	**	200	**	60	229	15	1,25 x DIM A	100	70	63	TBA
T-SH-956-0500	DN 500	20"	508.0	300	**	250	**	65	254	20	1,25 x DIM A	100	70	63	TBA
T-SH-956-0600	DN 600	24"	609.6	300	**	250	**	65	305	20	1,25 x DIM A	100	70	63	TBA
T-SH-956-0750	DN 750	30"	762.0	400	**	350	**	65	381	20	1,75 x DIM A	100	70	63	TBA
T-SH-956-0900	DN 900	36"	914.4	450	**	400	**	65	457	20	2,0 x DIM A	100	70	63	TBA

Shoe construction / insulation material shall be subject to project approval.
 All welds to be a = 0.7 x W.T., but maximum 4mm CFW.
 All welded attachment welded direct to PWHT pipe need to be welded before PWHT.
 Blocks must be supported over at least 25% of base.
 For standard shoes sizes see SH-219, 220, 221 & SH-519, SH520, SH 521
 Only dimensions marked * (Length & Height) can vary from standard shoe sizes. other effected dimensions
 Marked ** to be calculated by manufacturer.
 This Shoe to be used for lines with an anchor, line stop or high guide load restraints.
 Bolts to be according to ISO 10642 SS A4 80 (Full Threaded), & Nuts SS A4 80
 Bolting information (No. off, centres) is dependent/related to Dim A. Refer back to nearest standard shoe
 For design guidelines. Bolt centres (along shoe length) approx. max/min = 200/120.
 Extrapolate Lateral and Lifting Loads for Other Dim H Sizes.
 Std. Type includes all bolts, plain washers and double nuts. Bolts to have a minimum over length of 3 threads.