

No.	No. Acc. ISO 6520-1	Irregularity	Remarks	t,a,s,b [mm]*	EN ISO 5817 (Ed. 2023)			Section VIII Division 1 (Ed.2023)				ASME				Section VIII Division 2 (Ed.2023)			
					D	C	B	Reverence	A	B	C	D	Reverence	A	B	C	D		
1.1	100	Crack	-	≥0.5	not permitted	not permitted	not permitted	UW-5(b)(4)(-c)	not permitted				Table 7.6 No.1	not permitted					
1.2	104	Crater crack	-	≥0.5	not permitted	not permitted	not permitted	UW-5(b)(4)(-c)	not permitted				Table 7.6 No.1	not permitted					
1.3	2017	Surface pore	Maximum dimension of a single pore -Butt welds	t [mm]	d [mm]			Mandatory Appendix 4 Table 4-1	d [mm]				Table 7.6 No.2	d [mm]					
				3	0.9	0	1		1	1	1								
				4	12	0.8	107		107	107	107								
				5	15	1	107		107	107	107								
				6	18	12	16		16	16	16								
			8	2.4	16	2.11	2.11		2.11	2.11									
			>10	3	2	2.64	2.64		2.64	2.64									
			Maximum dimension of a single pore -Fillet welds	t [mm]	d [mm]			Mandatory Appendix 4 Table 4-1	d [mm]				Table 7.6 No.2	d [mm]					
				3	0.9	n.z.	1		1	1	1								
				4	12	0.8	107		107	107	107								
5	15	1		107	107	107	107												
6	18	12		16	16	16	16												
8	2.4	16	2.11	2.11	2.11	2.11													
>10	3	2	2.64	2.64	2.64	2.64													
1.4	2025	End crater pipe- butt welds		t [mm]	h [mm]			UW-37(c)	h [mm]				6.2.4.1(b)(1)	h [mm]					
				3	0.6	n.z.													
				4	0.8	0.4													
				5	1	0.5	not permitted												
				6	12	0.6													
8	16	0.8																	
>10	2	1																	
1.5	401	Lack of fusion (incomplete fusion)	-	≥0.5	not permitted	not permitted	not permitted	UW-38	not permitted				Table 7.6 No.4	not permitted					
		Micro lack of fusion	Only detectable by micro examination	≥0.5	permitted	permitted	not permitted	UW-38	not permitted				Table 7.6 No.4	not permitted					
1.6	4021	Incomplete root penetration		Only for single side butt welds	t [mm]	h [mm]			UW-38	h [mm]				Table 7.6 No.5	h [mm]				
				3	0.6														
				4	0.8														
				5	1	not permitted	not permitted												
				6	12														
8	16																		
>10	2																		
1.7	5011	Continuous undercut		t [mm]	h [mm]			UW-35 **	h [mm]				Table 7.6 No.6	h [mm]					
				3	0.6	0.3	0		0.3	0.3	0.3	0.3							
				4	0.8	0.4	0.2		0.4	0.4	0.4	0.4							
				5	1	0.5	0.25		0.5	0.5	0.5	0.5							
				6	1	0.5	0.3		0.6	0.6	0.6	0.6							
8	1	0.5	0.4	0.8	0.8	0.8	0.8												
>10	1	0.5	0.5	1	1	1	1												
1.8	5013	Shrinkage groove		t [mm]	h [mm]			UW-35	h [mm]				Table 7.6 No.6	h [mm]					
				3	0.5	0.3	-		0.3	0.3	0.3	0.3							
				4	0.8	0.4	0.2		0.4	0.4	0.4	0.4							
				5	1	0.5	0.25		0.5	0.5	0.5	0.5							
				6	12	0.6	0.3		0.6	0.6	0.6	0.6							
8	16	0.8	0.4	0.8	0.8	0.8	0.8												
>10	2	1	0.5	1	1	1	1												
1.9	502	Excess weld metal (butt weld)		b [mm]	h [mm]			UW-35	h [mm]				Table 7.6 No.7 Table 6.6 6.2.4.1(d)	h [mm]					
				2	15	13	12		0.8	2.5	2.5	0.8		0.8	2.5	2.5	0.8		
				3	175	145	13		15	3	3	15		15	2.5	2.5	15		
				4	2	16	14		15	3	3	15		15	2.5	2.5	15		
				5	2.25	175	15		2.5	4	4	2.5		15	2.5	2.5	15		
				6	2.5	19	16		2.5	4	4	2.5		2.5	3	3	2.5		
				8	3	2.2	18		2.5	4	4	2.5		2.5	3	3	2.5		
				10	3.5	2.5	2		2.5	4	4	2.5		2.5	3	3	2.5		
				12	4	2.8	2.2		2.5	4	4	2.5		2.5	3	3	2.5		
				15	4.75	3.25	2.5		2.5	5	5	2.5		2.5	4	4	2.5		
				20	6	4	3		2.5	5	5	2.5		2.5	4	4	2.5		
				25	7.25	4.75	3.5		2.5	5	5	2.5		2.5	4	4	2.5		
				30	8.5	5.5	4		3	6	6	3		3	4	4	3		
				35	9.75	6.25	4.5		3	6	6	3		3	4	4	3		
				40	10	7	5		3	6	6	3		3	4	4	3		
1.10	503	Excessive convexity (fillet weld)		b [mm]	h [mm]			UW-35	h [mm]				Table 7.6 No.7 Table 6.6 6.2.4.1(d)	h [mm]					
				2	15	13	12		0.8	2.5	2.5	0.8		0.8	2.5	2.5	0.8		
				3	175	145	13		15	3	3	15		15	2.5	2.5	15		
				4	2	16	14		15	3	3	15		15	2.5	2.5	15		
				5	2.25	175	15		2.5	4	4	2.5		15	2.5	2.5	15		
				6	2.5	19	16		2.5	4	4	2.5		2.5	3	3	2.5		
				8	3	2.2	18		2.5	4	4	2.5		2.5	3	3	2.5		
				10	3.5	2.5	2		2.5	4	4	2.5		2.5	3	3	2.5		
				12	4	2.8	2.2		2.5	4	4	2.5		2.5	3	3	2.5		
				15	4.75	3.25	2.5		2.5	5	5	2.5		2.5	4	4	2.5		
				20	5	4	3		2.5	5	5	2.5		2.5	4	4	2.5		
				25	5	4	3		2.5	5	5	2.5		2.5	4	4	2.5		
				30	5	4	3		3	6	6	3		3	4	4	3		
				35	5	4	3		3	6	6	3		3	4	4	3		
				>40	5	4	3		3	6	6	3		3	4	4	3		
1.11	504	Excess penetration		b [mm]	h [mm]			UW-35	h [mm]				Table 7.6 No.7 Table 6.6 6.2.4.1(d)	h [mm]					
				2	2.2	16	12		0.8	2.5	2.5	0.8		2.5	2.5	2.5	2.5		
				3	2.8	19	13		15	3	3	15		2.5	2.5	2.5	2.5		
				4	5	3.4	18		2.5	4	4	2.5		3	3	3	3		
				5	5	4	2		2.5	4	4	2.5		3	3	3	3		
			6	5	4	2.2	2.5		4	4	2.5	3		3	3	3			
			8	5	4	2.6	2.5		4	4	2.5	3		3	3	3			
			10	5	4	3	2.5	4	4	2.5	3	3	3	3					
				12	5	4	3	2.5	4	4	2.5	4	4	4	4				
				15	5	4	3	2.5	5	5	2.5	4	4	4	4				
20	5	4		3	2.5	5	5	2.5	4	4	4	4							
25	5	4		3	2.5	5	5	2.5	4	4	4	4							
30	5	4		3	3	6	6	3	4	4	4	4							
35	5	4	3	3	6	6	3	4	4	4	4								
40	5	4	3	3	6	6	3	4	4	4	4								
1.12	505	- Butt welds		≥0.5	α≥90°	α≤110°	α≤150°	Interpretation UW-35 **	smooth transition is required				Table 7.6 No.7	smooth transition is required					
		- Fillet welds		≥0.5	α≥90°	α≤110°	α≤150°												