

Embrittlement Results for Prehydrided ZIRLO_051409

Test Time s	CP ECR %	Hydrogen Content wppm	Permanent Strain %	Offset Strain %	Comment	1 σ Lower Bound Offset Strain, %	Ductility Assessment
166	11.0	203 \pm 2	4 TW cracks	5.5	Exclude: T excursion to 140°C		
		202 \pm 5	4 TW cracks	3.6	Include		
		197 \pm 1	2 TW cracks	1.8	Include		
		192 \pm 11	3 TW cracks	4.4	Include: 6.4-mm end piece		
		183 \pm 7	4 TW cracks	5.6	Exclude: low hydrogen		
						3.3 \pm 1.3 = 2.0	Transition CP-ECR is 11% for 200-wppm H
145	10.0	204 \pm 3	3 TW cracks	6.2			
		201 \pm 9	3 TW cracks	7.6			
		197 \pm 1	2 TW cracks	3.5	Exclude: 6.5-mm end piece		
						6.9 \pm 1.0 = 5.9	Ductile at 10% CP-ECR for 200-wppm H
127	9.0	216 \pm 7	3 TW cracks	3.1	Exclude: 5.1-mm end piece		
110	8.0	217 \pm 21	3 TW cracks	31			
		217 \pm 12	21	22			
						26 \pm 8 = 18	Very Ductile at 8% CP- ECR for 200-wppm H
127	9.0	236 \pm 21	4 TW cracks	9.4			
							Ductile at 9% CP-ECR for 240-wppm H
110	8.0	242 \pm 50	3 TW cracks	20			
							Very Ductile at 8% CP- ECR for 240-wppm H
166	11.0	281 \pm 28	0.8	0.9			
		TBD	0.4	0.5			
							Very Brittle at 11% CP- ECR for 280-wppm H
127	9.0	286 \pm 23	2 TW cracks	1.6			
							Brittle at 9% CP-ECR for 290-wppm H