

DIN EN 10228-4:2016-10 (E)

Non-destructive testing of steel forgings - Part 4: Ultrasonic testing of austenitic and austenitic-ferritic stainless steel forgings

Contents		Page
European foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Mandatory information	6
5	Test procedure	6
5.1	General	6
5.2	Form	6
5.3	Content	7
6	Personnel qualification	7
7	Equipment and accessories	7
7.1	Instrument	7
7.2	Probes	7
7.2.1	General	7
7.2.2	Contouring	8
7.2.3	Nominal frequency	8
7.2.4	Normal-beam probes	8
7.2.5	Angle-beam probes	8
7.2.6	Dual-element probes	8
7.3	Calibration blocks	8
7.4	Reference blocks	8
7.5	Couplant	8
8	Routine calibration and checking	9
9	Stage of manufacture	9
10	Surface condition	9
10.1	General	9
10.2	Surface finish related to quality class	9
10.3	As-forged surface condition	9
11	Test sensitivity	10
11.1	General	10
11.2	Normal-beam probes	10
11.3	Angle-beam probes	10
11.4	Repeat testing	10
12	Scanning	10
12.1	General	10
12.2	Complex forgings	11
12.3	Grid scanning coverage	11
12.4	100 % scanning coverage	11
12.5	Scanning speed	11

13	Classification	14
13.1	Classification of indications	14
13.2	Classification of discontinuities	16
14	Recording levels and acceptance criteria	19
15	Sizing	20
16	Test report	21
Annex A (informative)	Maximum testable depth for corresponding beam path range for circumferential angle-beam scans	22
Annex B (informative)	Amplitude of indication in dB relative to % DAC	24