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Digital Material Passport

ID	10004	Version	1.0.0
Issue Date	2025-08-16	Certificate Type	EN 10204 3.1

Business Transaction

Order		Delivery	
Order ID	1	Delivery ID	1
Quantity	1 kg	Quantity	1 kg

Product Information

Product Name	Hot rolled round bars suitable for forging, upsetting and machining
Batch ID	11112222
Heat Treatment	Normalized
Surface Condition	End of bars sawn, free from burr

Product Norms

Designation	EN 10060
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Material Designations

System	EN 10027-2
Designation	1.0577

Product Shape

Form	RoundBar
Length	1200 mm
Diameter	240 mm

Chemical Analysis

Heat Number	2323423423
Melting Process	EAF+LF+VD

Elements

Symbol	C	Si	Mn	P	S	Cr	Ni	Mo	Cu	B	Al	V	CEQ
Unit	%	%	%	%	%	%	%	%	%	%	%	%	%
Min	-	-	1	-	-	-	-	-	-	0.02	-	-	-
Max	0.2	0.55	1.6	0.025	0.03	0.3	0.3	0.07	0.3	0.02	-	-	0.49
Actual	0.2	0.4	1	0.02	0.03	0.1	0.2	0.05	0.2	0.02	1	1	0.1

Formula Definitions

CEQ = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

Mechanical Properties

Property	Symbol	Actual	Minimum	Maximum	Method	Status
Tensile Strength	Rm	500 N/mm²	450	600	EN 10002-1	-
Yield Strength	Re	300 N/mm²	285		EN 10002-1	-
Elongation	A	40 %	17		EN 10002-1	-
Impact test ISO-V		27 J	27		EN 10045-1	-
Surface hardness		210 HB		210		-
Core hardness		210 HB		210		-
Reduction of area	Z	4 %				-
Impact test ISO-V - (informative)		27 J			EN 10045-1	-

Physical Properties

Property	Symbol	Actual	Target/Min	Maximum	Method	Status
Grain size		5	5		ISO 643	-
Purity K4(ox)		20	-	30		-
Straightness		2 mm/m	-	2.5		-
Reduction ratio		7	6			-
Residual magnetism		1 A/cm	-	25		-

Supplementary Tests

Property	Actual	Target/Min	Maximum	Method	Status
Ultrasonic test 100% Rd. 201-250mm	Yes Pass	-		SEP 1921 3 D/d or EN 10308 class 3	-
Surface test	Yes Free from defects incl. overlaps, cracks and enfolded slag	-			-
Radioactivity	9 Bq/kg	-	100		-
Mercury content	Yes Free from mercury	-			-
Cadmium content	Yes Free from cadmium	-			-
Mismatch test	Yes 100% checked	-			-

Validation

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Validated By

Name	Title	Department	Date
Ha	QM		2025-08-16