

Customer
Engineering Solutions Ltd.
Tech Park Way 45
CF14 5DU Cardiff, GB
procurement@engisolutions.example.com

Manufacturer
ACME Metal Works GmbH
Industrial Park 123
52066 Aachen, DE
quality@acme-metal.example.com

Digital Material Passport

ID	DMP-METAL-002	Version	1.0.0
Issue Date	2025-05-14	Certificate Type	EN 10204 3.1

Business Transaction

Order		Delivery	
Order ID	PO-78902	Delivery ID	DN-56790
Position	10	Position	1
Date	2025-04-21	Date	2025-05-13
Quantity	2000 kg	Quantity	2000 kg

Product Information

Product Name	Structural Steel S420N
Batch ID	H-10988-01
Heat Treatment	Normalized
Surface Condition	Hot-rolled
Production Date	2025-05-10
Country of Origin	DE

Material Designations

System	EN
Designation	1.8902

Product Shape

Form	Plate
Length	6000 mm
Width	2000 mm
Thickness	25 mm

Chemical Analysis

Heat Number	H-10988
Melting Process	EAF+LF+VD
Casting Date	2025-05-09
Sample Location	Ladle

Elements

Symbol	C	Mn	Si	P	S	CEV
Unit	%	%	%	%	%	%
Min	-	-	-	-	-	-
Max	0.2	1.6	0.5	0.025	0.015	0.44
Actual	0.16	1.48	0.28	0.016	0.01	0.41

Mechanical Properties

Property	Symbol	Unit	Actual	Minimum	Maximum	Method	Status
Tensile Strength	Rm	MPa	560	520	680	EN ISO 6892-1	✓
Yield Strength	ReH	MPa	445	420		EN ISO 6892-1	✓
Elongation after fracture	A	%	24	19		EN ISO 6892-1	✓
Reduction of Area	Z	%	62	50		EN ISO 6892-1	✓
Charpy V-notch Impact Energy	KV	J	58	40		EN ISO 148-1	✓
Brinell Hardness	HBW	HBW	185	150	220	EN ISO 6506-1	✓
Vickers Hardness	HV	HV10	195	160	230	EN ISO 6507-1	✓
Rockwell Hardness	HR	HRC	18		22	EN ISO 6508-1	✓
Elastic Modulus	E	GPa	210			EN ISO 6892-1	✓
Strain Hardening Exponent	n		0.18			ASTM E646	✓
Plastic Strain Ratio	r		1.2	1.0		EN ISO 10113	✓
0.2% Proof Strength	Rp0.2	MPa	430	400		EN ISO 6892-1	✓

Validation

We hereby certify that the material described above has been manufactured and tested in accordance with the requirements of EN 10204:2004 type 3.1 and the specified standards. The results comply with the requirements.

Validated By

Name	Title	Department	Date
Johann Weber	Quality Inspector	Quality Assurance	2025-05-14