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Subcustomer

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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

Process: Normalizing | Lot: NORM-2024-0823-A12 | Charge: NF-789
Furnace: NF-LINE-02 | Date: 2024-08-23 | Operator: H. Mueller

Stage	Temperature	Duration	Cooling	Atmosphere
Austenitizing	920 C +/-15C	60 min		Air
Cooling	20 C		Air 15°/	

Bundling: 20 items, stacked, 8500 kg

Certification: DIN-EN-ISO-9001

Surface Condition	Hot-rolled
Production Date	2025-05-10
Country of Origin	DE

Product Norms

Designation	EN 10025-3 (2019)
Grade	S420N

Material Designations

System

Designation

EN

1.8902

Product Shape

Form

Length

Width

Thickness

Plate

6000 mm

2000 mm

25 mm

Chemical Analysis

Heat Number

Melting Process

Casting Date

Casting Method

Sample Location

H-10988

EAF+LF+VD

2025-05-09

ContinuousCasting

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

Formula Definitions

CEV = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15: 0.41 %

Mechanical Properties

Property	Symbol	Actual	Minimum	Maximum	Method	Status
Tensile Strength Test temperature: 20°C Specimen: 1/4T, L					EN ISO 6892-1	✓

Individual Values		#1	#2	#3
Value [MPa]		558	562	560
Statistics	Mean	Min/Max		Std Dev
EN ISO 6892-1 statistical analysis	560.0	558 / 562		2.0 (Sample)

Yield Strength Test temperature: 20°C, 3 specimens tested					EN ISO 6892-1	✓
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Individual Values		#1	#2	#3
Value [MPa]		442	445	448
Statistics	Mean	Min/Max		Std Dev
EN ISO 6892-1 statistical analysis	445.0	442 / 448		3.0 (Sample)

Elongation after fracture Gauge length 5.65#S ₀ , 3 specimens tested					EN ISO 6892-1	✓
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Individual Values		#1	#2	#3
Value [%]		23	24	25
Statistics	Mean	Min/Max		Std Dev
EN ISO 6892-1 statistical analysis	24.0	23 / 25		1.0 (Sample)

Reduction of Area 3 specimens tested					EN ISO 6892-1	✓
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Individual Values		#1	#2	#3
Value [%]		60	62	64
Statistics	Mean	Min/Max		Std Dev
EN ISO 6892-1 statistical analysis	62.0	60 / 64		2.0 (Sample)

Charpy V-notch Impact Energy Test temperature: -20°C Specimen: 1/2T, T-L					EN ISO 148-1	✓
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Individual Values		#1	#2	#3
Value [J]		56	58	60
Statistics	Mean	Min/Max		Std Dev
EN ISO 148-1 statistical analysis	58.0	56 / 60		2.0 (Sample)

Brinell Hardness Ball: 10mm, Force: 3000kg, 5 indentations					EN ISO 6506-1	✓
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Individual Values		#1	#2	#3	#4	#5
Value [HBW]		183	185	187	184	186
Statistics	Mean	Min/Max		Std Dev		
EN ISO 6506-1 statistical analysis	185.0	183 / 187		1.58 (Sample)		

Vickers Hardness 10 kg load, 5 indentations					EN ISO 6507-1	✓
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Individual Values		#1	#2	#3	#4	#5
Value [HV10]		192	195	198	194	196
Statistics	Mean	Min/Max		Std Dev		
EN ISO 6507-1 statistical analysis	195.0	3 / 4	192 / 198		2.35 (Sample)	

Rockwell Hardness	HR	18 HRC	22 HRC	EN ISO 6508-1	✓
Elastic Modulus	E	210 GPa		EN ISO 6892-1	✓
Strain Hardening - Exponent	n	0.18		ASTM E646	✓

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

<i>Name</i>	<i>Title</i>	<i>Department</i>	<i>Date</i>
Johann Weber	Quality Inspector	Quality Assurance	2025-05-14

Data schema maintained by [Material Identity](https://schemas.materialidentity.org/metals-schemas/v0.1.0/schema.json). <https://schemas.materialidentity.org/metals-schemas/v0.1.0/schema.json>