Manufacturer

Advanced Steel Technologies GmbH

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Customer

Precision Engineering Ltd.

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Digital Material Passport

ID	DMP-2024-ARR-001	*Version*	0.1.0
Issue Date	2024-12-15	*Certificate Type*	EN 10204 3.1

Business Transaction

Order		**Delivery**	
Order ID	PO-2024-7890	*Delivery ID*	DN-2024-3456
Quantity		*Quantity*	500 kg

Product Information

Product Name	Hardenability Test Steel
Batch ID	HTB-2024-045

Product Shape

Form	RoundBar
Length	1000 mm
Diameter	100 mm

Chemical Analysis

Heat Number	H-2024-078
Sample Location	Ladle

Elements

Symbol	**C**	**Mn**	**Si**	**P**	**S**	**Cr**	**Ni**
Unit	%	%	%	%	%	%	%
Min	0.42	0.5	-	-	-	-	-
Max	0.5	0.8	0.4	0.03	0.025	0.25	0.25
Actual	0.45	0.65	0.25	0.015	0.008	0.12	0.08

Mechanical Properties

Property	*Symbol*	*Actual*	*Minimum*	*Maximum*	*Method*	*Status*
Jominy Hardenability Test Quenched from 850°C					ISO 377	✓

Distance from quenched end (mm)	1.5	3	5	7	9	11	15	20	25	30
Value [HRC]	45	43	40	36	33	31	27	25	28	27
Min	42	39	35	32	29	26	22	20	-	-
Max	47	46	44	41	39	37	33	31	<=30	<=29
Status	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Coating Thickness Profile — ISO 2178 ✓
Magnetic induction method

Position along length (mm)	0	50	100
Value [µm]	125	115	108
Min	>=120	>=110	>=100
Max	<=130	<=125	<=120
Status	Pass	Pass	Pass

Validation

We hereby certify that the material described above has been manufactured and tested in accordance with EN 10083-1 and ISO 377. All hardenability requirements have been met.

Validated By

Name	*Title*	*Department*	*Date*
Dr. Maria Schmidt	Metallurgical Engineer	Quality Control Laboratory	2024-12-15

Data schema maintained by Material Identity. https://schemas.materialidentity.org/metals-schemas/v0.1.0/schema.json