

18.10.2022

486994

Customer's order number 023686		Manufacturer's order number 172542 1		
Customer/consignee Ovako Metals Oy Ab Tuotekatu 3 33840 Tampere		Buyer Ovako Metals Oy Ab Tuotekatu 3 33840 Tampere		
Customer reference number 023686-5130/96-733023				
Product Round bar As rolled Hot rolled, reeled		Steel grade HYDAX 15		
		Specification IS 2720.12.04		
Charge 48582	Abbreviation HJ3	Diameter/dimensions 90,00 mm	Tolerance type N	Reduction ratio 18,04 :1

CAST ANALYSIS

	C	SI	MN	P	S	CR	NI	MO	
	%	%	%	%	%	%	%	%	
Min		0,15	1,00		0,090				
Result	0,16	0,25	1,18	0,015	0,102	0,19	0,14	0,03	
Max	0,20	0,55	1,60	0,035	0,150				
	V	TI	CU	ALS	AS	SN	B	CA	
	%	%	%	%	%	%	%	%	
Min								0,0020	
Result	0,05	0,0015	0,26	0,009	0,008	0,014	0,0001	0,0040	
Max	0,09								
	N	NB	CO	PB	W	SB	ZN	CEV	
	%	%	%	%	%	%	%	%	
Min									
Result	0,012	0,003	0,015	0,0003	0,008	0,001	0,003	0,43	
Max								0,47	

CHARPY V2/-20 °C EN ISO 148-1

	KV1	KV2	KV3	KV AVER
	J	J	J	J
Min				27
Result	187	182	170	180
Max				

TENSILE TEST FROM 1/3 RADIUS EN ISO 6892-1

	Rp0.2	Rm	A 5	Z
	MPa	MPa	%	%
Min	315	490	20,0	45
Result	405	566	22,6	56
Max		630		

Steel production process: Electric Arc Furnace, Vacuum Degassing and Continuous Casting

Country of origin: Finland

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The products supplied are in compliance with the requirements of the order

This certificate is issued electronically and is valid without a signature

Takala Esa
Authorized Representative

All of Ovako's operations are carbon neutral beginning January 1, 2022.