

19.1.2023

489934

Customer's order number 024401		Manufacturer's order number 173818 1		
Customer/consignee Ovako Metals Oy Ab Tuotekatu 3 33840 Tampere		Buyer Ovako Metals Oy Ab Tuotekatu 3 33840 Tampere		
Customer reference number 024401-5130/96-733019				
Product Round bar As rolled Hot rolled, reeled		Steel grade HYDAX 15		
		Specification IS 2720.06.22		
Charge 49432	Abbreviation JDH	Diameter/dimensions 65,00 mm	Tolerance type N	Reduction ratio 34,58 :1

CAST ANALYSIS

	C	SI	MN	P	S	CR	NI	MO	
	%	%	%	%	%	%	%	%	
Min		0,15	1,00		0,090				
Result	0,16	0,23	1,19	0,018	0,115	0,15	0,15	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	0,27	0,005	0,009	0,011	0,0002	0,0038	
Max	0,09								
	N	NB	CO	PB	W	SB	CEV		
	%	%	%	%	%	%	%		
Min									
Result	0,010	0,002	0,017	0,0000	0,002	0,004	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	191	187	204	194
Max				

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

	Rp0.2	Rm	A 5	Z
	MPa	MPa	%	%
Min	335	490	21,0	45
Result	427	574	21,2	49
Max		630		

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

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

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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.