

A-A

05850¹

Legend

LF 3000

מסמך זה סודי

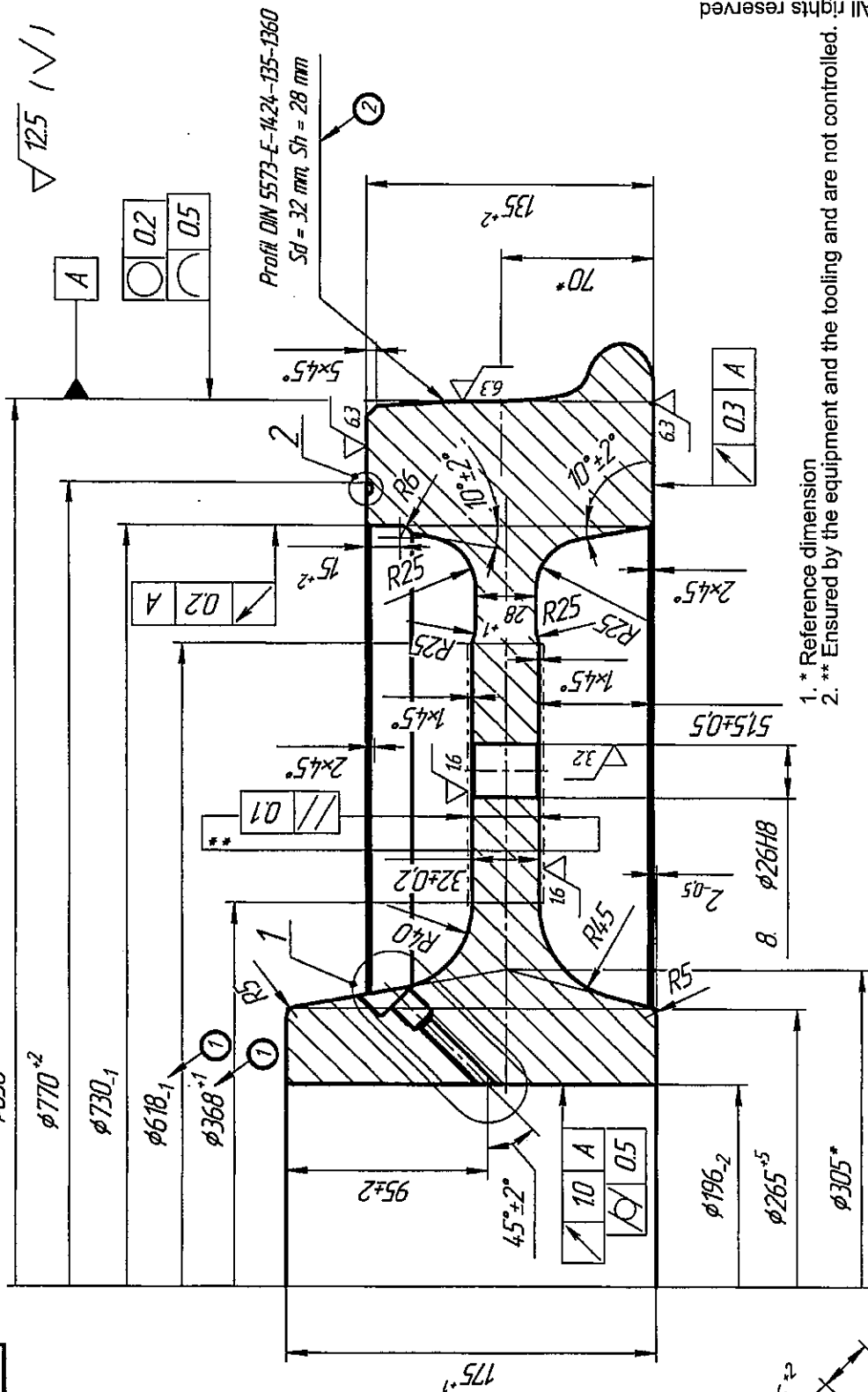
מחיר - N חלקות

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החוקר ח' חמיוע

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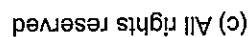
1. * Reference dimension
2. ** Ensured by the equipment and the tooling and are not controlled.

[illegible]

Формат А3

Конференция

[Signature]


$$\sqrt{125} \text{ (✓)}$$

KP-0070-12

[illegible]

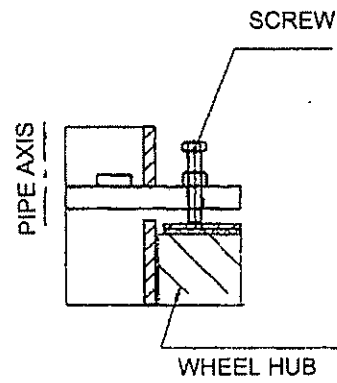
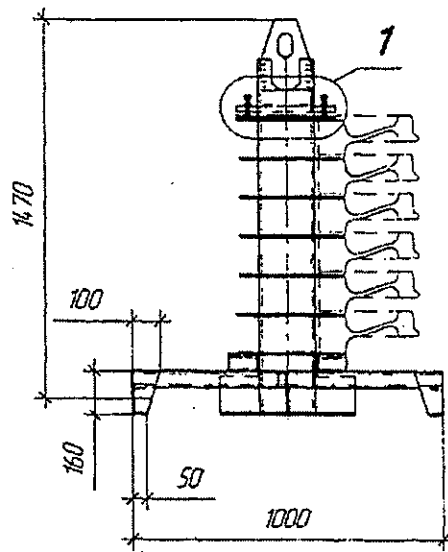
Καμπύροειδαν

Формат А3

Yours truly,

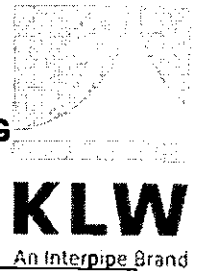
GENERAL VIEW OF PACKING

1



Handwritten signature

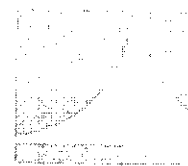
**TECHNICAL SPECIFICATION № 97-95-2012 FOR SUPPLYING
MACHINED WHEELS Ø850 mm to Taiwan**



Description	machined wheels ø 850 mm		
Standard	EN 13262, actual release, cat.2		
Drawing	№ KP-0070-12		
Steel manufacturing way	open-hearth process, followed by vacuum degassing or way of continuous casting steel		
Steel grade	ER8		
Hydrogen contents	not more than 2 ppm		
Chemical composition of steel in production, %	C not more 0,56 Si not more 0,40 Mn not more 0,80 P not more 0,020 S not more 0,015	Cr, Cu, Ni not more 0,30 Mo not more 0,080 V not more 0,06 Cr+ Ni + Mo not more 0,50	
Mechanical properties	<p><i>As per standard</i></p> <p>Rim (Re ≥ 540; Rm 860-980; A $\geq 13\%$) H/mm² H/mm²</p> <p>Web (Rm decrease ¹⁾, ≥ 20; A $\geq 16\%$) N/mm²</p> <p>1) Decrease in web tensile strength as compared with actual rim tensile strength values in the same wheel.</p> <p>KU (J) at +20°C (Average value not less 17; Minimum value 12) KV(J) at - 20°C (Average value not less 10; Minimum value 5)</p>		
Hardness control	100 % wheels acc. to p. F.4.2. EN 13262		
Hardness distribution over surface	30 HB in a batch		
Hardness over rim profile	p. «B»: not less than 245 HB at 35 mm depth from wheel nominal diameter of Ø850 mm. Heat hardening should not have any significant effect on hardness in point «A». Hardness in point «A» has to be lower by not less than 10 HB as compared with actual hardness values in point «B».		
Residual stress	According to p. F.4.3 EN 13262. Decrease in distance between the marks has to be not less than 1 mm.		
Ultrasonic test	100 % of wheel's rims shall be tested in axial and radial directions defect of 2 mm according to p.3.4.2 EN 13262		
Macrostructure	Deep etching method as per ISO 4969: no flakes, laminations, turned-in and buried skins, nonmetallic inclusions, shrinkage hole remnants and other metal discontinuities are not permitted.		
Microstructure	According to ISO 643. Grain size has shall be not more than 6. Control to produce on specimens tested in tension.		
Nonmetallic inclusions	According to p.3.4.1. EN 13262. Nonmetallic inclusion grain size shall be as provided by ISO 4967, Method A		
Inclusion types	Thick/thin (maximum)	Thick/thin (maximum)	
	A (sulfides) 1,5/2	D (globular oxides) 1,5/2	
	B (aluminates) 1,5/2	B+C+D 3/4	
	C (silicates) 1,5/2		
Reheat treatment	Not more than one additional heat treatment and two additional tempering operations.		
Residual unbalance	Not more than 75 gm		
Magnetic particle test	acc. to p. 3.6.2., EN 13262		
Quality of surface	Defects according to p. 3.6 EN 13262 on the elements of the wheel are not allowed.		
Appearance and dimensions	Control of geometrical parameters of 100% wheels is carried out in accordance with drawing No. KP-0070-12		

KLW WHEELCO SA

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VAT №: CHE-700 499 999



KLW
An Interpipe Brand

Marking	Cold marking shall be applied to end face of the hub bore from the inside of wheel by symbols height 10+2 mm and depth not less than 0,2 mm. Distance from the outer diameter of hub bore to signs symbols 8+2 mm.. It is not permissible to use stamps with keen edges. Marking should be clear and readable from wheel center.
Marking order	<ol style="list-style-type: none">1. Manufacturer's abbreviated name: KLW.2. Heat number: 5 symbols.3. Grade steel: ER8.4. Date of production: month and 2 last symbols of the year of production5. Space for inspector's mark.6. Serial number of wheel in a heat: 3 symbols.
Additional marking	Residual unbalance E2 shall be marked on the end face of hub bore by inside according to his actual position. Unbalance value E2 analogical to basic marking.
Coating and Packing	Wheels are supplied in metal holders with temporary conservation. Wheels are covered with cover which is composition skin forming inhibited «E-Tek 510». Cover is applied on all elements of the wheel excluding hole in web. As additional protection against corrosion of the wheels during transportation by sea using special containers made of reinforced high-strength paper with a woven polyester material. Alternative types of coverings/ways of protection can be coordinated before issue of the order in production.
Guaranty	Manufacturer shall guarantee compliance of the wheels with requirements of this technical specification, provided that operation, storage, transportation and assembly conditions are observed. Quality warrant period is 60 months starting from putting in operation transport vehicles in which the goods are used, but not more than 72 months of the date of delivery.

