

<b>TÜRASAS</b> Regional Directorate of Eskişehir	<b>TECHNICAL SPECIFICATION</b>	Document No	250.432			
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## T.Ş. 250.432

### TECHNICAL SPECIFICATION FOR SUPPLYING 1500 kN DRAW GEAR

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## 1. SUBJECT and SCOPE

This technical specification covers the minimum general and technical issues, control, acceptance, warranty and other issues on “**1500kN Draw Gears with Elastomer**” to be used in manufacturing and overhauling freight wagons at TÜRASAS Regional Directorate of Eskişehir and TÜRASAS Regional Directorate of Sivas.

## 2. DEMANDS and FEATURES

- 2.1. **Draw Gears with Elastomer** shall be used on freight wagons,
- 2.2. **Draw Gears with Elastomer** shall be 1500 kN,
- 2.3. EN 15566 shall be the reference for all of the issues related with **Draw Gears with Elastomer**,
- 2.4. **Draw Gears with Elastomer** and related components shall be prepared, manufactured, assembled, tested, certified and marked according to EN 15566,
- 2.5. **Draw Gears** shall have elastomer springs,
- 2.6. The operating range temperature of the **Draw Gears** shall be between (-40)°C and (+50)°C.
- 2.7. Elastomer pads shall be used on draw gears.
- 2.8. Elastomer Pads shall not be affected from UV,
- 2.9. The nut and washer of the draw gear shall be galvanised,
- 2.10. Dry paint film thicknesses on any point of the draw gears shall be between 120-200 micron. The undercoat paint shall be semigloss Epoxy Primer, the top coat paint shall be semigloss RAL 9005 (Black) Acrylic Polyurethane.
- 2.11. In order to ensure traceability of the draw gears, marking will be made in accordance with EN 15566 standard. However, the contract numbers and the customer logo will be embossed on the draw gears. Also, charge numbers and serial numbers will be overwritten with dot matrix, laser, etc. by some method on the draw gears. The customer logo and numbers written on the draw gears will be placed in a position that can be seen easily after the draw gears are mounted on the wagon and in the same position in all draw gears.

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### 3. BIDDING

- 3.1.The bidders will provide the TSI Certificate of Conformity for Draw Gear (TSI certificate (EC, CE, EG) or conformity certificate to the EN 15566 by NoBo approved) with the first product delivery. The Compliance Tests shall be approved by a NoBo Body authorized according to 2008/57/EC Directives recorded NANDO Database of EU.
- 3.2.The bidders shall submit TSI/EN conformity declaration which is prepared according to TS EN ISO/IEC 17050-2 belongs to the products offered to TÜRASAS with the first product delivery.
- 3.3.The bidders will give the technical drawings of the proposed 1500 kN draw gear, the technical specifications, the static and dynamic curves of the elastomer spring.
- 3.4.The bidders will give the Usage and maintenance books of the product per 4.4 and 4.5 articles of TSI WAG 321/2013 regulation belong to product which they offered together with their proposal with the first product delivery.

### 4. CERTIFICATES WITH THE DELIVERED BATCH TO THE ACCEPTANCE DEPARTMENT AFTER CONTROLS AND CHECKS PERFORMED BY THE MANUFACTURER

- 4.1.TSI certificates (EC, CE, EG) or EN 15566 certificate of conformity approved by a NoBo shall be delivered to the Acceptance department with each batch.
- 4.2.The manufacturer shall deliver the technical specifications of 1500kN draw gear.
- 4.3.The manufacturer shall deliver all test results according to EN 15566 related to the draw gear to the Acceptance Department in the form of 3.1 certificate per EN 10204.

### 5. TESTS AND INSPECTIONS PERFORMED BY THE MANAGEMENT:

The management shall control and check each batch from the point of followings;

- 5.1.Control of TSI certificates (EC, CE, EG) or EN 15566 certificate of conformity approved by NoBo
- 5.2.Control of 3.1 certificate per EN 10204
- 5.3.100 % visual inspection

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5.4.TÜRASAS shall have the right of taking a sample and/or samples and perform destructive tests and / or non- destructive tests on the samples if TÜRASAS deems necessary. Firm shall give new components used at destructive tests to TÜRASAS free of charge.

## 6. PACKING, DELIVERY PLACE AND DELIVERING MANNER

The components to be submitted to the Acceptance Department shall be delivered in quality and thick wooden, petroleum products, etc made cases resisting the minor damages during loading and unloading to prevent any damage from dust, rain, snow, sun rays, wind, etc. and to be protected any harm during carrying in every weather condition. Four boxes can be stored over and over. Durable string tape shall be wrapped to prevent the spreading the cases.

The cases must be convenient to be lifted by a fork-lift. The weight of the cases with the components in shall be 400-500 kilograms. All writings on the cases must be readable, inerasable and weatherproof and the writings must contain the name of the manufacturer, material name, order number and drawing number, number of the component, the batch number, manufacturing date.

The list consisting of the data above or marking list data shall be delivered to Acceptance Department with the dispatch list or the invoice for each case seperately.

The components delivered to Acceptance Department stocked into the cases upon they are wrapped with bubble pack to prevent from from climate and envirolment conditions such as rain, wild, snow and will not be damaged during the stocking, carrying, loading and unloading. The componets shall not touch each others.

In case the components are delivered to the Acceptance Department improper manner, a written report shall be prepared and the components shall be returned to the firm without accepting them.

The place of delivery of the parts packaged in accordance with the technical specifications is TÜRASAS Eskişehir Regional Directorate or TÜRASAS Sivas Regional Directorate, depending on the demand.

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## 7. PROTOTYPE

For the first time being manufacturer, 2 prototype shall be given to TÜRASAS. After accepting the prototype, manufacturer shall start the serial production. Although manufacturer sold product to TÜRASAS before, If the project or manufacturing process has changed, manufacturer shall give another prototype to TÜRASAS.

## 8. WARRANTY

The manufacturer shall warranty for the components having manufacturing defects and are not recognised at acceptance stage two (2) years starting from the date of delivering the last batch. The winner firm shall change the defected components with the new ones after the defects are informed in a (1) month.

## 9. OTHER ISSUES:

9.1.Increasing the component number, delivering and delivering type, insurance, warranty, etc. issues which are not in the technical specification shall be defined in the Administrative Specification.