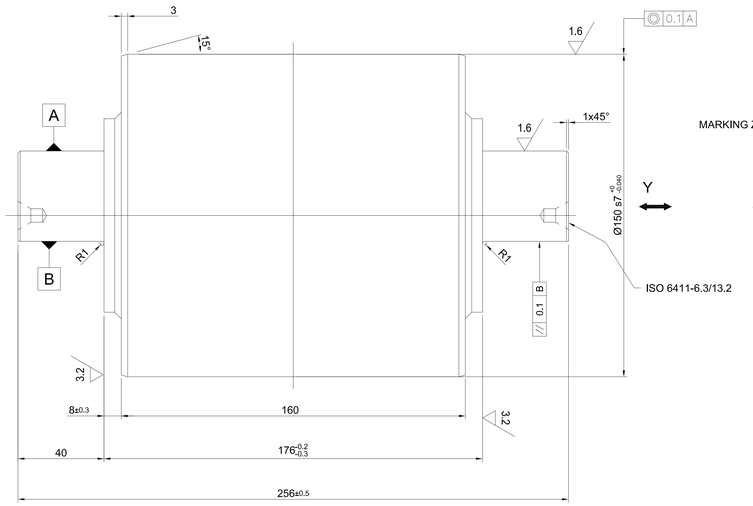
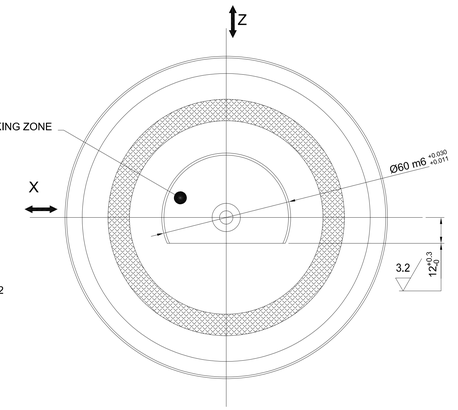




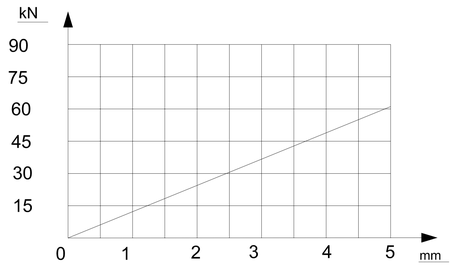
Service Condition	
Load and Rotation	Value
Radial (X-Z axis)	±27 kN
Axial (Y axis)	±27 kN
Max torsion angle (Y Axis)	2°
Max conical angle (Z Axis)	0,5°

Exceptional Condition	
Load and Rotation	Value
Radial (X-Z axis)	±45 kN
Axial (Y axis)	±35 kN
Max torsion angle (Y Axis)	6°
Max conical angle (Z Axis)	1,5°

Considering the element reference axis parallel to the vehicle axis:

- X axis parallel to the rail
- Y axis transverse to the rail
- Z axis vertical

Radial Stiffness (x) and (z) (12.2kN/mm)



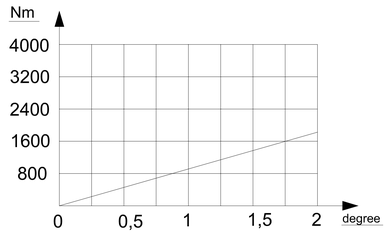
Axial Stiffness (y) (4.2kN/mm)



Torsional Stiffness (rot.y) (50Nm/°)



Cardanic Stiffness (rot.x)(rot.z) (880Nm/°)



NOMINAL CHARACTERISTIC TOLERANCE
(NEW)= +/- 15%
FINAL CURVE OF DIAGRAM WILL BE MADE AFTER ROUTINE TEST

ELASTIC ELEMENT for AXLE BOX STIFFNESS
(These line graph shall be confirmed by Supplier)

ISO 13920 Welded Construction - ISO 2768 General Tolerances - BS 1706 Steel Casting - BS 1452 Grey Iron Castings			
	<1000	6,0	0,8
	<630	4,0	0,7
	<400	3,0	0,6
	<250	3,0	0,4
	100	2,0	0,3
	40	1,5	0,2
	L mm	Hem	Yşk.
	Nom. Size	Class	
	<4000	2,0	0,4
	<2000	1,2	0,4
	<1000	0,8	0,3
	<400	0,5	0,3
	30-120	0,3	0,2
	2-30	0,2	0,1
	L mm	m	K
	Nom. Size	Class	
	>20000	9,0	8,0
	<20000	8,0	7,0
	<16000	7,0	6,0
	<12000	6,0	5,0
	<8000	5,0	4,0
	<4000	4,0	3,0
	<2000	3,0	2,0
	<1000	2,0	1,5
	<400	1,0	1,0
	30-120	1,0	0,5
	2-30	1,0	0,5
	L mm	A	E
	Nom. Size	Class	

6.3 3.2 1.6

All metal part identified shall be galvanized with treatment Fe / Zn 12c 2D according to EN ISO 2081:2009 or equivalent EXCLUDING Ø150.

Technical Specifications	-			
Technical Document	-			
Fixture/Mould Asset ID.	-			
Coating/Heat Tre./Roughness	-			
Paint/Color	-	Modf.No	Modification Description	Date / Sign

No	Parça Adý / Designation Name of Item	Adet / Qty.	Resim No / Norm / Drawing No / Norm	Malzeme / Material	Ölçü / Dimension	Ağırlık / Weight (Kg)	
	ISO 1302 ISO 8015 EN 22553		General Tol.	ISO 2768 f ☐ mX H ☐ KX			
	EN 15085-2 Certification Level		CL1☐ CL2☐ CL3☐ CL4☐	Weld Pro.	ISO 13920 A☐ B☐ E☐ F☐		
				Cast Steel	ISO 12708 Lm2☐ Ly2☐ Sm2☐ Sr2☐		
	Approved P.FARINA			Scale			
	Checked M.BORLO			1:10			
	Prepared D. CARLINO						
TYP	ELASTIC ELEMENT FOR AXLEBOX						
	Date:28/05/2021				Sheet:1/1	Size:A0	Rev:00

TÜRASAŞ
Turkish Railway Vehicles Industry Inc.

FT90.24.00.00007

Reproduction, dissemination or use of this document or its content is not permitted without the prior written permission of TÜVASAŞ. Offenders will be liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or registered design.