भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
EPBX (0522) 2451200
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Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310

No.TM/HM/11/36/ MFS 120

Date: 24-12 -2018

महा प्रबन्धक (इंजीनियरिंग),

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई– 400 001
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता– 700 001
3. उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली– 1100 01
4. पूर्वोत्तर रेलवे, गोरखपुर– 27 3001
5. पूर्वोत्तर फ्रन्टियर रेलवे, मालीगॉव गुवाहाटी– 781 011
6. दक्षिण रेलवे, एनेक्सी, पार्क टाऊन, चेन्नई– 600 003
7. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद– 500 071
8. दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता– 700 043
9. पश्चिम रेलवे, चर्चगेट, मुम्बई– 400020
10. उत्तर मध्य रेलवे, इलाहाबाद– 211 001
11. उत्तर पश्चिम रेलवे, जयपुर– 302 006
12. पूर्व मध्य रेलवे, हाजीपुर– 844 101
13. पूर्व कोस्ट रेलवे, रेलवे कॉम्पलेक्स, भुवनेश्वर– 751 023
14. दक्षिण पश्चिम रेलवे, हुबली– 580 023
15. पश्चिम मध्य रेलवे, जबलपुर– 482 001
16. दक्षिण पूर्व मध्य रेलवे, बिलासपुर– 495 004

Sub: Provisional speed certificate of Muck Disposal Unit Model MFS 120 supplied by M/S Plasser India.

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1.0 Muck Disposal Unit Model MFS 120 is manufactured by M/s Plasser India as per their drawing No. SU126.40200.0.1. The machine is used to transport ballast or spoil after ballast bed cleaning. This is designed as high sided wagon with four two-axled bogies. The swiveling projecting device of the machine cannot be folded and shall be supported on a dummy flat wagon (BG Bogie flat wagon type BRN22.9 or any suitable Flat type wagon) by using of supporting and holding arrangement as per drawing Nos. SU126.10219.6, SU126.10219.6.1 and SU126.10219.6.1.6 supplied by the manufacturing firm to the concern Railway

1.1 The maximum axle load, wheel diameter and wheel base of machine are 20.32t, 920mm and 1800mm respectively. Suspension arrangement of the machine is given as per Drg. No. ELH648 0.02.017.100. The design speed of machine is 80kmph when running in train formation as a dead vehicle.

1.2 BG Bogie flat wagon type BRN22.9 to RDSO drawing no. WD-09053-S-02 Alt. nil with axle load of 5.83t in empty condition has been permitted to run provisionally up to maximum permissible speed of 65Kmph in empty and loaded condition over Indian Railway as per RDSO's Provisional speed certificate no. No. MW/BRN 22.9 Date: 16.01.2012 and re-validated the provisional speed certificate on dated 24.03.2017.

2.0 Based on the design features supplied by OEM of the machine, Muck Disposal Unit Model MFS 120 as given in Annexure-A and above may be permitted provisionally to run at a maximum speed of 55 kmph when running in train formation as a dead vehicle subject to the following conditions:

2.1 TRACK

2.1.1 The track shall be to a minimum standard of 52kg rails on sleepers laid to M+7 density and 250mm depth of ballast cushion below sleepers which shall consist of at least 100mm clean and the rest in caked up condition, on compacted and stable formation.

2.1.2 For track maintained to lower standard than that mentioned above, the Chief Engineer shall decide the lower maximum permissible speed on the basis of maintenance condition. In this connection, Railway Board's letter No.65/ WDO/SR/26 dt.19/20.10.66 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he shall suitably restrict the maximum permissible speed depending on the local conditions.

2.1.3 The maximum permissible speed on curves shall be decided on the basis of existing provisions of the Indian Railways Permanent Way Manual second reprint -2004.

2.1.4 The weld shall be protected by joggled fish plates as per provisions of para 6.4 and para 8.14 of USFD manual and para 6.3 of AT welding manual and other policy instructions of Railway Board. The maintenance of Rails and Rail joints shall be ensured as per para 250 &251 of IRPWM. In addition, wherever condition warrants, on account of corrosion on rail/weld collar, wear on rail, cupping of welds etc., necessary precautions shall be taken for fish plating/ joggled fish plating.

2.1.5 Zonal Railway shall ensure further detailed examination of track as deemed fit based on age cum condition basis, overdue renewal and condition of formation etc. as per provisions of Chapter-III of IRPWM-2004 regarding permanent way renewals and shall suitably restrict maximum speed of operation based on such examination.

2.2. BRIDGES

2.2.1 The clearance refers to Bridges "standard spans" with standard design of girders, slabs, pipe culverts, piers and abutments etc. issued by RDSO for BGML, RBG and MBG-1987 standard loadings .However, the bearings of span 76.2m (clear) designed for BGML standard loading as per RDSO's drawing No. BA-11154 shall be strengthened by providing two additional anchor bolts.

2.2.2 Superstructures and Bearings of "Special Spans" (designed and constructed by Zonal Railways based on site requirements) including all arches and substructure of all bridges (all Standard Spans & Special Spans) are to be examined under the directions of the Chief Bridge Engineer concerned and certified safe with respect to current Indian Railway Standard Codes with up to-date correction slips.

2.2.3 The above clause have been arrived considering bridges are in physically sound condition. In case the bridges are not in satisfactory physical condition, necessary speed restriction to be imposed by concern Chief Bridge Engineer of Zonal Railway.

2.2.4 Location of bridges on which speed restrictions are imposed shall be notified by the Railways and incorporated in the working timetable.

2.2.5 The clearance of the machine is subject to the following parameters of Ballast Cleaning Machine –

i)	Maximum axle load	: 20.32t
ii)	Maximum braking force at rail level per axle	: 16.1t
iii)	Maximum C.G. height from rail level	: 2170mm

2.2.5.1(a) BGML loading standard spans of 2.0m, 2.5m, 3.0m, 5.3m, 6.9m, 10.0m, 13.1m, 19.4m, 25.6m, 31.9m, 47.3m, 63.0m, 78.8m, (all effective) are prohibited for operation in all cases.

(b) RBG loading standard spans of 2.0m, 2.5m, 3.0m, 5.3m, 6.9m, 10.0m, 13.1m, 19.4m, 25.6m, 31.9m, 47.3m, 63.0m, (all effective) are prohibited for operation in all cases.

(C) MBG loading standard spans of 5.3m, 6.9m, 13.1m, 19.4m, 25.6m, 31.9m, 47.3m & 63.0m, (all effective) are prohibited for operation in all cases.

2.2.5.2 Track on bridges and approaches of BGML spans 1.0m, 1.5m, 3.7m & 4.3m, RBG spans of 1.0m, 1.5m, 3.7m, 4.3m & 78.8m and MBG spans of 1.0m, 1.5m, 2.0m, 2.5m, 3.0m, 3.7m, 4.3m.10.0m & 78.8m(all effective) shall be strengthened or modified in such a way so as to allow for dispersion of longitudinal force as per clause 2.8.3.2 of IRS Bridge Rules. In cases where dispersion cannot be allowed as per clause 2.8.3.2 such as due to provision of SEJ in bridges etc., the bridge superstructure including bearings and sub-structure shall be checked for longitudinal force without dispersion and certified safe by the chief Bridge Engineer concerned.

2.2.6 In train formation, specific restrictions shall be applicable as indicated in relevant speed certificates of hauling locomotives /attached wagons issued by RDSO.

2.3 SIGNALLING

2.3.1 Provisions of GR, SR, SEM and all extant instructions issued from time to time, shall be complied with.

2.3.2 The speed of the machine while running through the station shall be decided by the Zonal Railways depending upon type of track relay used, type of route release circuit adopted, length of First Vehicle Track circuit provided ahead of last stop signal and standard of interlocking existing at the station.

2.3.3 The condonation regarding infringements in schedule of dimensions, if any, shall be obtained in accordance with local conditions, before movement.

2.4 ROLLING STOCK

2.4.1 Before operation of the machine, Chief Engineer/ Track Machine of the Railway shall ensure to safety of rolling stock and certify the track worthiness. They shall also ensure proper maintenance of the rolling stock.

2.4.2 Brakes of the vehicle shall be in perfect working condition during the operation.

2.5 TRACTION INSTALLATION

2.5.1 In 25 kv AC traction area, the CEE of the Railway shall have to ensure that the minimum height of Contact Wire and electrical clearances as stipulated in provision of Chapter-V and V-A, Electrical Traction 'Schedule of Dimensions of 1676mm Gauge (BG) revised 2004' with latest Addendum & Corrigendum Slips is not violated and strictly followed to ensure its safe running.

2.5.2 In addition to above, the Chief Electrical Engineer of the concerned Railway may impose any temporary speed restriction on the basis of personal knowledge, experience of the sectional OHE and the field conditions prevailing on the particular section.

2.5.3 Any parts which are meant for operation/movement during operation/ maintenance e.g. crane, zib etc provided on the vehicle shall be in closed and locked down condition during movement and while standing under 25 KV AC OHE such that no parts of the vehicle extend beyond the MMD envelop & also to ensure minimum electrical clearance as per SOD.

2.6 GENERAL

2.6.1 The working of maintenance machine shall be as per provision of para 1227 of Indian Railways Permanent Way Manual reprint- 2004.

2.6.2 The machine when running in train formation, a speed restriction of 15 kmph shall be imposed on Diamond Crossings. No speed restriction on main line route at Points & Crossing is required. Speed restriction on Turn Out side of Points and Crossing shall be applicable as per provision in IRPWM-2004.

2.6.3 Design of the machine infringes clauses 18(i) and 20(b) of Chapter IV (A) of Indian Railways Schedule of Dimensions (BG) Revised, 2004. Railway Board has condoned the infringements vide letter No. 2018/CEDO/SD/RS/ 08, dated 04.12.2018.

2.6.4 All the permanent and temporary speed restrictions in force and those that shall be imposed from time to time due to track, bridges, curves, signalling and interlocking etc. shall also be observed. in this connection, speed on curves shall be in accordance with Para 2.1.3 of this speed certificate.

2.6.5 When the machine is being moved nonworking, it shall be ensured that all the protruding parts are withdrawn and suitably locked.

2.6.6 The swiveling projecting device which cannot be folded while travelling should be supported on a dummy flat wagon (BG Bogie flat wagon type BRN22.9 or any suitable Flat type wagon) by using supporting and holding arrangement as per drawing Nos. SU126.10219.6, SU126.10219.6.1 and SU126.10219.6.1.6 supplied by the manufacturing firm to the concern Railway.

2.6.7 The design of the wagon does not infringe chapter IV (A), of Indian Railways Schedule of Dimensions 1676 mm Gauge (8G) Revised, 2004 as shown in diagram 1 D.

2.6.8 This speed certificate is provisional only and shall be valid up to 5 years from date of issue or before date of issuance of relevant final speed certificate, whichever is earlier.

संलग्नक: 1. Plasser Drg. No. SU126.40200.0.1
2. Eisenrahn Laufwerke Halle Drg. No. ELH648 0.02.017.100
3. Annexure A
4. Railway Board's letter No. 2018/CEDO/SD/RS/ 08, dt. 04.12.2018
5. Railway Board's letter No.65/WDO/SR/26, dt.19/20.10.1966
6. Para 6.4 and Para 8.14 of USFD Manual

7. Para 6.3 of AT welding manual
8. Para 250, 251& Ch III of IRPWM-2004
9. Plasser Drg. Nos. SU126.10219.6, SU126.10219.6.1 and SU126.10219.6.1.6

(सी. मधुसूधन राव)
कार्यकारी निदेशक मानक/चालन शक्ति

प्रतिलिपिः

1. सचिव (मेकैनिकल/इंजीनियरिंग (जी)), रेलवे बोर्ड, रेल भवन, नई दिल्ली–110 001
2. मुख्य रेल संरक्षा आयुक्त, अशोक मार्ग, लखनऊ–226001
3. महा प्रबन्धक (मेकैनिकल/परिंचालन/संकेत एवं दूर संचार)
   i) मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई– 400 001
   ii) पूर्व रेलवे, फेयरलीप्लेस, कोलकाता– 700 001
   iii) उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली– 1100 01
   iv) पूर्वोत्तर रेलवे, गोरखपुर– 237 012
   v) पूर्वोत्तर फ्रन्टियर रेलवे, मालीगॉव गुवाहाटी– 781 011
   vi) दक्षिण रेलवे, एनेक्सी, पार्कटाऊन, चेन्नई– 600 003
   vii) दक्षिण मध्य रेलवे, रेलनिलायम, सिकन्दराबाद– 500 071
   viii)दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता– 700 043
   ix) पश्चिम रेलवे, चर्चगेट, मुम्बई– 400020
   x) उत्तर मध्य रेलवे, इलाहाबाद– 211 001
   xi) उत्तर पश्चिम रेलवे, जयपुर– 302 006
   xii) पूर्व मध्य रेलवे, हाजीपुर– 844 101
   xiii) पूर्व तटीय रेलवे, बी.डी.ए. रेन्टल कालोनी, चन्द्रशेखरपुर, भुवनेश्वर– 751 023
   xiv) दक्षिण पश्चिम रेलवे, हुबली– 580 023
   xv) पश्चिम मध्य रेलवे, जबलपुर– 482 001
   xvi)दक्षिण पूर्व मध्य रेलवे, आर. ई. आफिस काम्प्लेक्स, बिलासपुर–495 004

संलग्नकः 1. Plasser Drg. No. SU126.40200.0.1
2. Eisenrahn Laufwerke Halle Drg. No. ELH648 0.02.017.100
3. Annexure A
4. Railway Board's letter No. 2018/CEDO/SD/RS/ 08, dt. 04.12.2018
5. Railway Board's letter No.65/WDO/SR/26, dt.19/20.10.1966
6. Para 6.4 and Para 8.14 of USFD Manual
7. Para 6.3 of AT welding manual
8. Para 250, 251& Ch III of IRPWM-2004
9. Plasser Drg. Nos. SU126.10219.6, SU126.10219.6.1 and SU126.10219.6.1.6

(सी. मधुसूधन राव)
कार्यकारी निदेशक मानक/चालन शक्ति

ANNEXURE-A

Salient features of Muck Disposal Unit Model MFS 120 supplied by M/S Plasser India.

S.No.	Description	Details
1.	Principal dimensions of rolling stock	a) Drg.No. SU126.40200.0.1 b) Length over buffers : 22930mm c) Wheel base : 1800mm d) Max. axle load : 20.32t e) Wheel dia. : 920mm f) Max. design speed- i) In train formation : 80kmph g) Gross Weight : 157t Tare Weight : 62t
2.	Suspension arrangement	Drg. No. ELH648 0.02.017.100
3.	Details of coupler and buffer	Coupler :Tight lock coupler "H" type with Transition screw coupling Buffer : WA/BD -211
4.	Power transmission system	Diesel engine Output 141kw, 2300rpm
5.	Uses in Railways	Transport ballast or spoil after ballast bed cleaning
6.	Safety Items	a) Fire extinguisher : one b) Hooter(manual) : two c) Jack (10t) : two d) Wooden Blocks : four e) Corw bars : four f) Hydraulic hand pump : one g) Emergency pneumatic/ hydraulic hose with end fittings : one

DDTk-III SINo 51

भारत सरकार Government Of India
रेल मंत्रालय Ministry Of Railways
(रेलवे बोर्ड) (Railway Board)

05.12.18

सं.2018/CEDO/SD/RS/08

New Delhi, Dated 04.12.2018

The Director General,
Manak Nagar, RDSO,
Lucknow.

विषय : Condonation of infringements by Muck Disposal Unit Model MFS 120 supplied by M/s Plasser India, Drawing No. SU126.40200.0.1, w.r.t. IRSOD (BG) Revised, 2004.

संदर्भ : (i) RDSO's letter No.CT/TMM/GENL, dated 19.09.2018.
(ii) CCRS's letter No.Q-14011/03/2018-19-T.W., dated 13.10.2018.

With reference to your above application, dated 19.09.2018, sent through the Chief Commissioner of Railway Safety, Lucknow; the sanction of Ministry of Railways, Railway Board is hereby communicated for condonation of infringement to Chapter-IV(A), Schedule-I of IRSOD (BG) Revised, 2004 of Muck Disposal Unit Model MFS 120 as shown in details enclosed with above mentioned letter, as under :

(i) **Clause 18(i)** – Minimum rigid wheel base for bogie truck of any vehicle by 30mm for main bogies (i.e. 1800mm for main bogies instead of 1830mm)

(ii) **Clause 20(b)** – Maximum length over side buffers for bogie vehicle by 630mm (i.e. 22930mm instead of 22300mm)

Prem Sagar
4.12.18
(प्रेम सागर गुप्ता)
कार्यकारी निदेशक/सिविल इंजीनियरिंग(जी)/रेलवे बोर्ड
[Phone : 030-44803 (Rly.); 011-23383379 (MTNL); 09717647692 (CUG Mobile)]
e-mail address : edceg@rb.railnet.gov.in

सं.2018/CEDO/SD/RS/08

New Delhi, Dated 04.12.2018

Copy forwarded for information to :

1. The Chief Commissioner of Railway Safety, Compound of DRM/NER, Ashok Marg, Lucknow-226001 w.r.t. his endorsement No. Q-14011/03/2018-19-T.W., dated 13.10.18.
2. Commissioner of Railway Safety, all Circles.
3. Executive Directors - Track-1 and TM, RDSO, Lucknow.
4. EDTk(Mc) Railway Board, New Delhi.

रेल मंत्रालय Ministry of Railways रेलवे बोर्ड/Railway Board अनुलग्नक सहित जारी Issue with Enclosure Signature जारी की तिथि Date of Issue 12/18

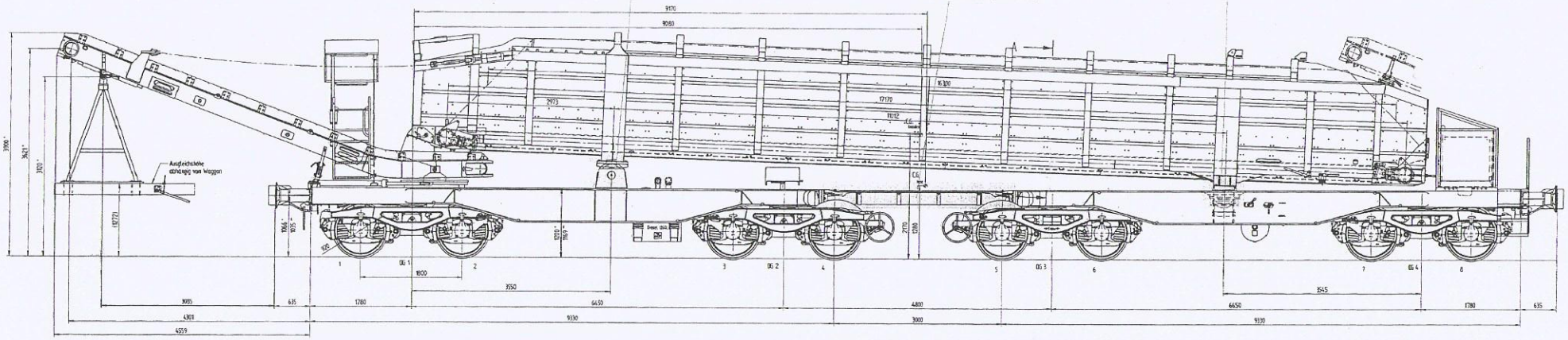
Prem Sagar
5.12.18
(प्रेम सागर गुप्ता)
कृते सचिव, रेलवे बोर्ड

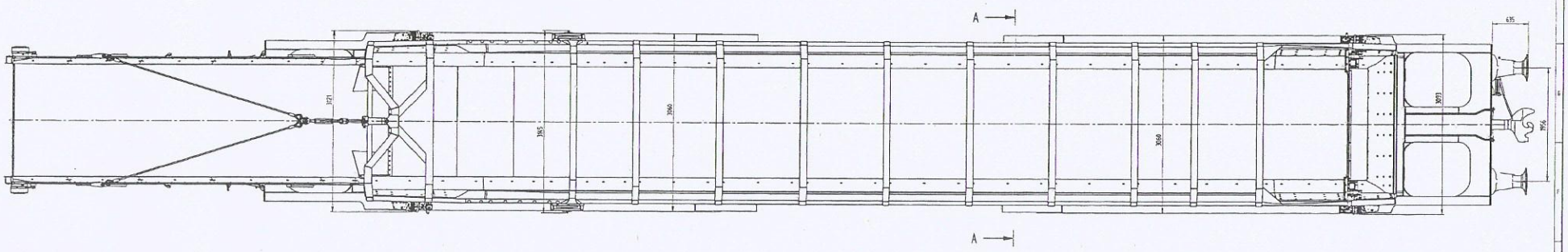
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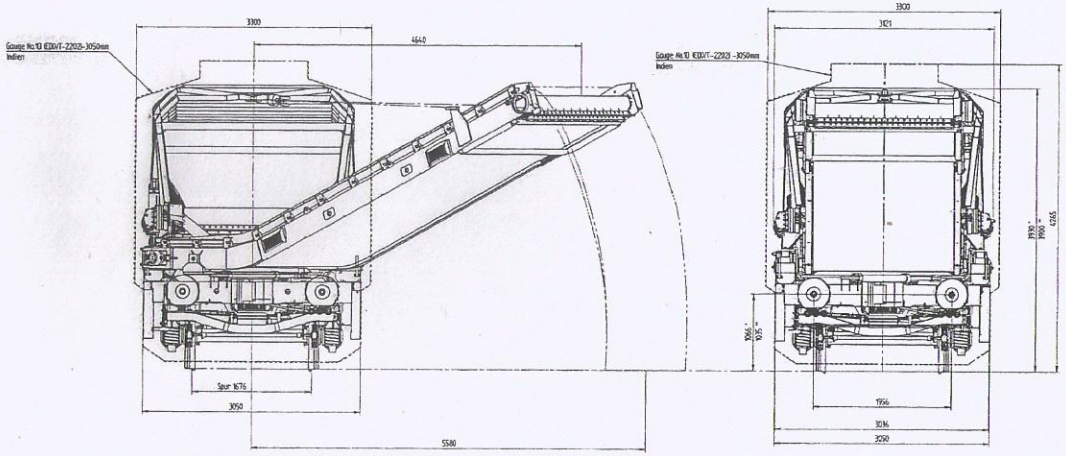
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DETAIL ATTACHED (COUPLING)

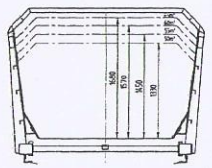
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Schnitt A–A
1:25
for Containervolume



Ka 56445-56452 / INDIAN RW

Technische Daten

Empty weight	62t
Payload	95t
Max. axle load	22.5t
Storage capacity	65m³
Vert. Radius	500m
Horizont. Radius	175m
Max. speed	80km/h
Engine	1x1MW bei 2300U/min

* ... unloaded
** ... loaded

S.E.				Pesser Theurer	
Kon.	23.07.2018	Hauenberger			
Freigabe	23.07.2018	Hofbauer			
Maßstab	Blatt-Nr.	Zeichnungs-Nr.		Benennung	
1:25	1 von 1	SU126.402000.1		MFS 120	