

**Brakes - Requirements of friction test benches for  
the international certification of brake pads and  
brake blocks**

**Appendix I**

*UIC approved friction test benches*

The tables given in this appendix:

- are updated regularly,
- correspond to the above date of update.

## Appendix I – UIC approved friction test benches.

Owner	Location	Designation	Brake Shoe Winter Conditions (Yes/No)	Category of bench		Vmax <sup>1</sup> Kph See RP 18	rpm <sup>(5)</sup>	Documentation	Date of approval	Expiry date
				D	K					
<b>Independent test benches (railway benches)</b>										
DB	Minden		No	X	X	370	2200	B 126 RP 54	January 1998	January 2025
FS (ITCF)	Florence	FS-ITCF	No	X	X	250	1500	B 126 RP 54	January 1999	January 2025
FS (RFI)	Florence	FS-RFI	No	X	X	400	2400	B 126 RP FS1	November 2023	November 2028
PKP (IK)	Warsaw		No	X	X	420	2500	B 126 RP 54	January 2001	January 2025
SNCF	Vitry	MF1	No	X	X	350	2100	B 126 RP 54	January 1998	January 2025
SNCF	Vitry	MF3	No	X	X	500	2900	B 126 RP 54	January 1998	January 2025
ZSSK	Žilina		No	X	X	350	2100	B 126 RP 54	January 2001	January 2025
CARS	Beijing	281975	No	X		500	3100	B 126 RP V1	June 2018	June 2024
TUV NORD	Essen	NSP II	No	X		500	2850	B 126 RP T3	January 2024	January 2029
<b>Manufacturers' test benches <sup>(2)</sup></b>										
Federal Mogul	Glinde	Ik 3/3	No		X	220	1325	B 126 RP 54	June 2011	January 2025
Federal Mogul	Glinde	Ik 3/8	No	X		500	3000	B 126 RP 54	January 2012	January 2025
Wabtec	Avellino <sup>(3)</sup>	3.5.6	No		X	210	1250	B 126 RP 54	January 2012	January 2025
Flertex Sinter	Gennevilliers	01	No	X		500	2400	B 126 RP L5	April 2013	July 2024
Wabtec	Avellino	065	No	X		500	3400	B 126 RP 54	June 2013	January 2025
ICER	Pamplona	A0004083.01	No		X	200	1250	B 126/RP P2	April 2015	April 2025
Knorr-Bremse	Munich	KBM-RPS 1	No	X		500	3000	B 126 RP 54	January 2013	January 2025
Wabtec	Avellino	271	No	X		320	2000	B 126 RP C23	July 2019	July 2024
Akebono	Hanyu	DR400	No	X	X	500	2750	B126 RP Z3	July 2020	July 2025
Wabtec	Recklinghausen	Test bench n°4	Yes		X	220	1330	B126 RP A21	July 2022	January 2029

D – disc brakes  
 K – block brakes

<sup>1</sup> Maximum speed to be simulated

<sup>(2)</sup> not approved for the certification of own friction products

<sup>(3)</sup> mechanical flywheel simulation only

<sup>(5)</sup> maximum rotational speed of the dyno without any physical relation with the maximum simulated test speed

### Notes concerning updates:

Date of update	Body	Decision
07.04.2004	CTR Steering Committee	Creation of a UIC webpage for UIC-approved components; Removal of the corresponding appendices from the relevant UIC leaflets
01.09.2004	SC 5, "Braking and Running Gear" Session of July 2004	First publication on UIC website of the tables extracted from UIC Leaflet 541-3, 5th edition, Appendix H.6; Details added of the tests since repeated for the Bucharest, Prague, Minden, Florence, Vitry MF1 and Vitry MF3 test benches (SC 04, session of January 2004, points 18.1 to 18.5).
01.04.2006	SG 5, "Braking and Running Gear" Session of January 2006 Point. 3.5	Execution of the tests repeated for the purpose of extending approval for the Warsaw and Zilina test benches
01.05.2010	SET 7, "Braking" Session of January 2010 Point. 3.1.2	Confirmation of the tests repeated for the purpose of extending approval for the Bucharest, Minden, Florence, Warsaw, Vitry and Žilina test benches
26.07.2010	SET 7, "Braking" Session of January 2010 Point 3.1.2	Correction of the details of the owner of the Žilina bench
24.01.2013	SET 7, "Braking" Session of January 2013 Point 3.1.7	Recast of appendix and addition of manufacturers' test benches
18.06.2013	SET 7, "Braking" Session of June 2013 Point 3.2.5	Introduction of the CoFren test bench 065 in Avellino
22.01.2015	SET 7, "Braking" Session of January 2015 Point 3.2.3 & 3.4.2	Introduction of winter brake test facilities for composite brake shoes of RTA in Vienna. Renewal of certification of test benches of DB, FS, PKP, SNCF (MF3) and ZSSK
15.04.2015	SET 7 „Braking“ E-Mail-inquiry from 23.3.2015	Introduction of the ICER Brakes test bench A0004083.01 in Pamplona
02.07.2015	SET 7, "Braking" Session of July 2015 Point 3.4.2	Extension of the certification of test benches of FS and SNCF (MF1 & MF3) for the certification of brake blocks
01.03.2016	SET 7, "Braking" Session of January 2016 Point 2.11	Extension of the certification of the test bench of SNCF (MF1) for the certification of brake pads
01.07.2016	SET 7, "Braking" Session of July 2015 Point 2.9 Point 3.4.2	Conversion of Appendix H.6 of UIC Leaflet 541-3 into Appendix I of UIC Leaflet 548; Extension of the certification of the test benches of Federal Mogul for brake blocks (Ik 3/3) and brake pads (Ik 3/8) in Glinde/Germany
01.02.2017	SET 7, "Braking" Session of January 2017 Point 3.2.6	Renewal of certification of the test bench 3.5.6 for brake blocks of CoFren in Avellino/Italy
01.02.2018	SET 7, "Braking" Session of January 2018 Point 3.2.4	Renewal of the certification of the test bench KBM RPS1 of Knorr-Bremse for the certification of brake pads

19.07.2018	SET 7, "Braking" Session of June 2018 Point 3.2.5 Point 3.2.6	Renewal of the certification of the test bench N° 065 of CoFren for the certification of brake pads Certification of test bench N° 281975 of CARS for the certification of brake pads
19.04.2019	SET 7 „Braking“ E-Mail-inquiry from 21.3.2019	Renewal of the certification of the test bench 01 of Flertex Sinter for the certification of brake pads
05.07.2019	SET 7 „Braking“ Session of July 2019 Point 3.2.4	Certification of the test bench no. 271 of CoFren for the certification of brake pads
20.02.2020	SET 7, "Braking" Session of January 2020 Point 3.4.3.	Extension of certification of test benches of DB, FS, PKP, SNCF and ZSSK
20.07.2020	SET 7, "Braking" Session of January 2020 Point 3.2.11. Point 3.4.3.	Introduction of the Akebono test bench DR400 in Hanyu Renewal of certification of test benches of DB, FS, PKP, SNCF, ZSSK, Federal Mogul, Wabtec, and Knorr-Bremse
18.09.2020	SET 7 „Braking“ E-Mail-inquiry from 6.4.2020	Renewal of the certification of the test bench A0004083.01 of Icer Rail S.L. for the certification of brake blocks
17.06.2022		Withdrawal of RTA test bench
22.07.2022	SET 7, "Braking" Session of July 2022 Point 3.4.4. Point 3.4.9.	Introduction of the Becorit test bench n°4 in Recklinghausen  Prolongation of certification of CARS test bench 281975
24.07.2023	SET 7, "Braking" Session of July 2023 Point 3.4.9.	Prolongation of certification of Alstom Flertex test Bench Flertex Sinter n°1
28.11.2023	SET 7, "Braking" Session of July 2023 Point 3.2.9.	Approval by Email Survey upon SET 7 decision, minutes #246, July 2023.
26.01.2024	SET 7, "Braking" Session of January 2024 Point 3.4.5 (Becorit), 3.4.4 (TUV Nord), 3.4.7 (Flertex)	Approval of TUV NORD NSP II and Winter conditions for BECORIT Approval of Flertex Sinter Prolongation