The Benefits of the 1958 Agreement

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JAPAN AUTOMOBILE STANDARDS INTERNATIONALIZATION CENTER

The Japan Automobile Tyre Manufacturers Association

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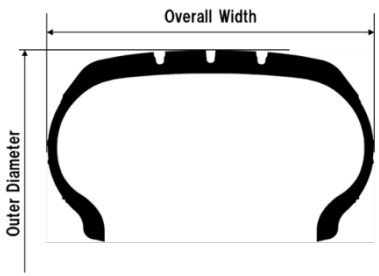
1. Performance Requirement for Tyres

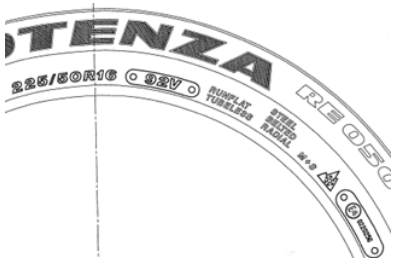
Tyre is one of the important vehicle parts for vehicle safety and environment.

(1) Tyre Performance for Safety

Dimension



Marking



High speed test
Endurance test

Wet Grip

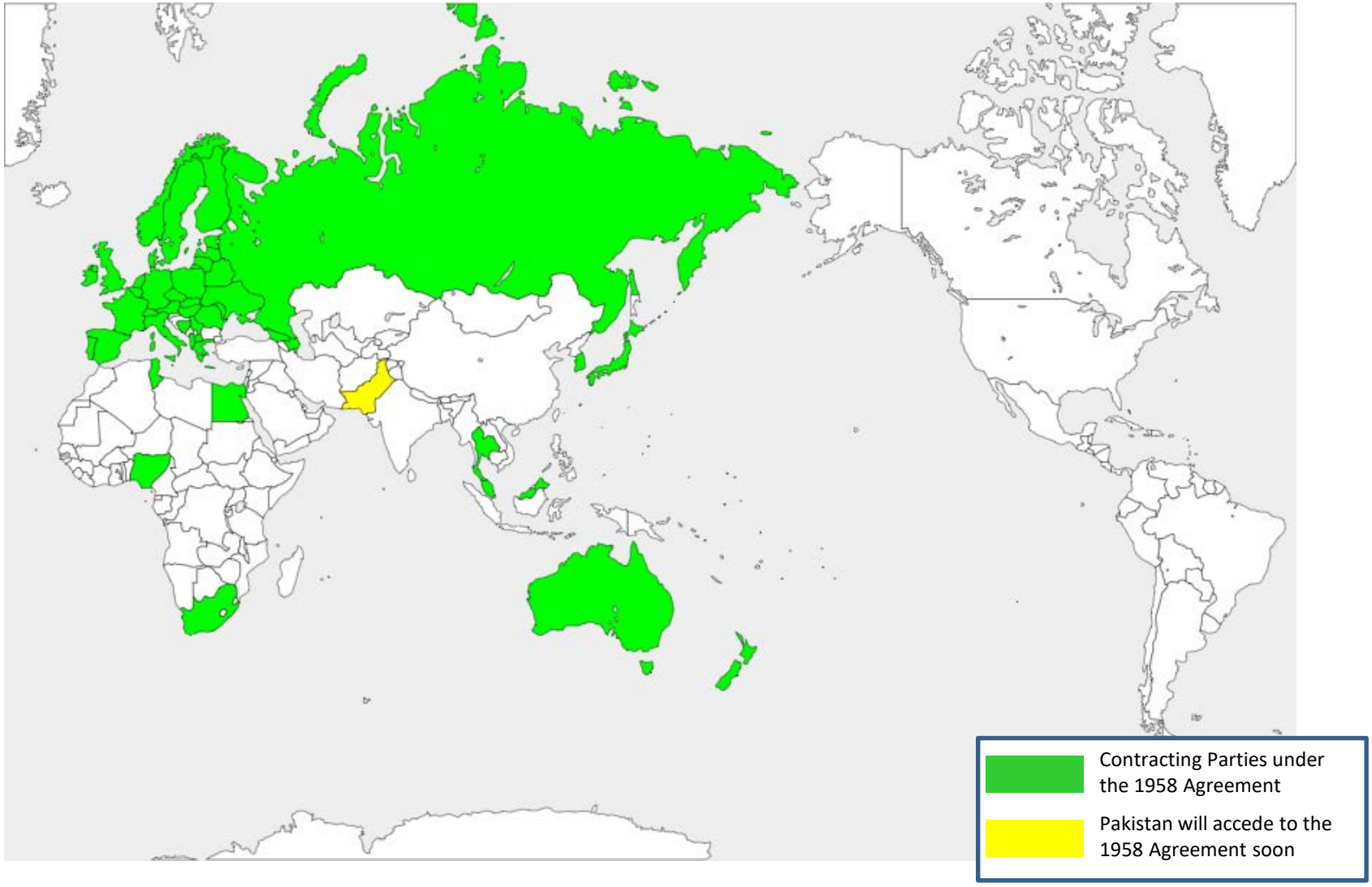
(2) Tyre Performance for Environment

Tyre Noise

Rolling Resistance

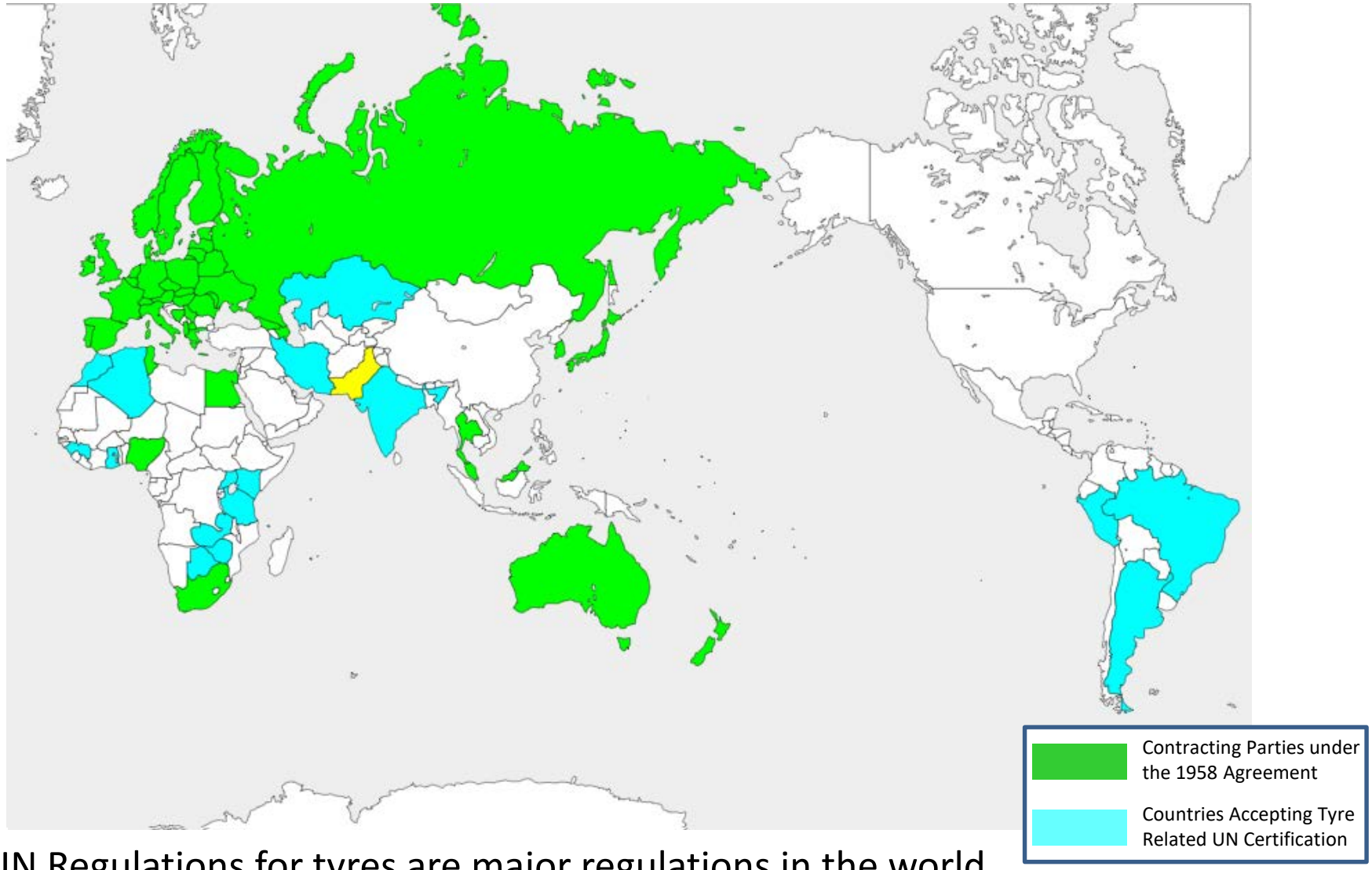
2. UN Regulations for Tyres are Accepted Globally

(1) Contracting Parties under the 1958 Agreement



2. UN Regulations for Tyres are Accepted Globally

(2) Countries Accepting Tyre Related UN Certification

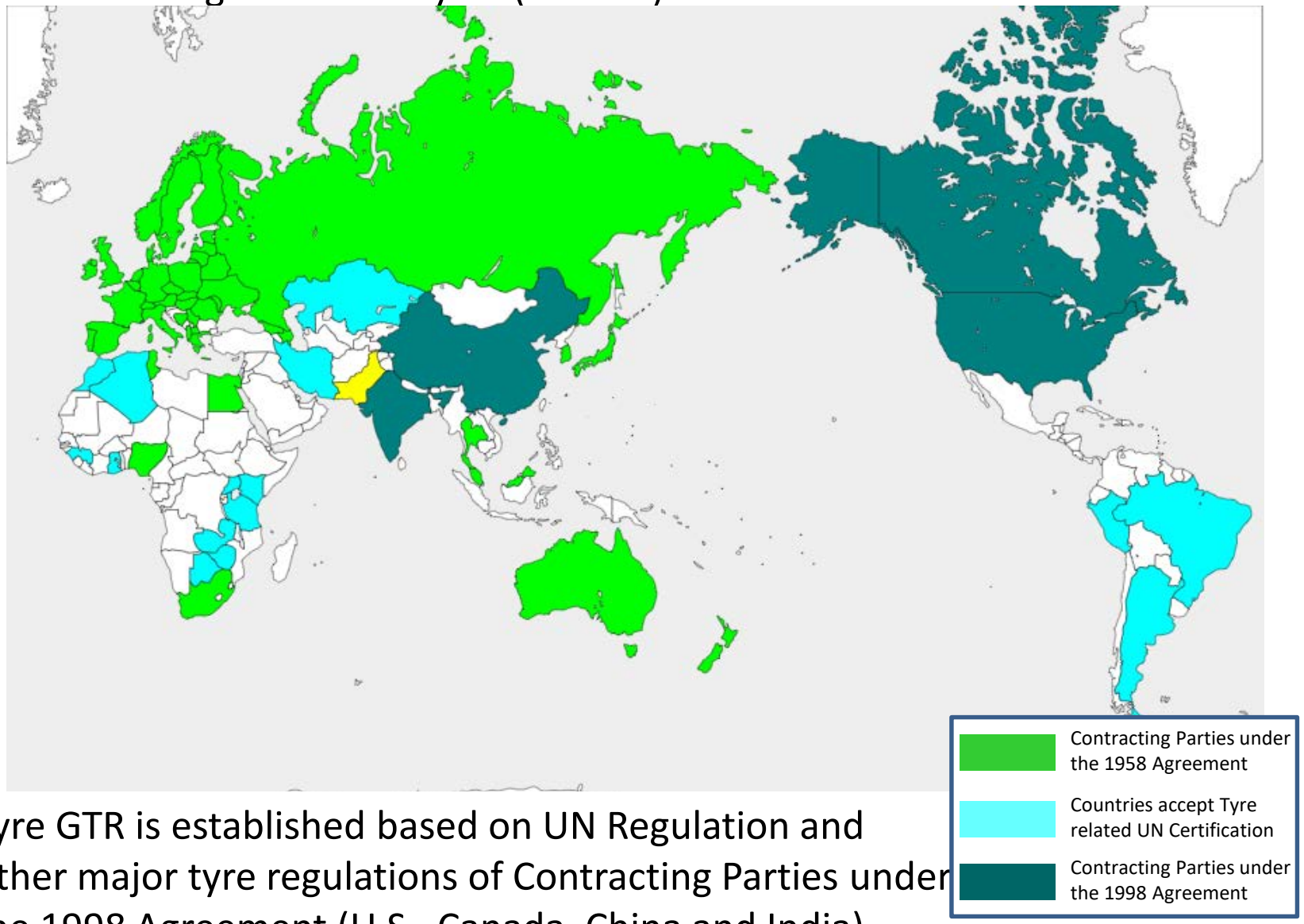


UN Regulations for tyres are major regulations in the world.

Many countries accept UN Certification.

2. UN Regulations for Tyres are Accepted Globally

(3) Contracting Parties under the 1998 Agreement to jointly establish Global Technical Regulation for Tyres (GTR-16)



Tyre GTR is established based on UN Regulation and other major tyre regulations of Contracting Parties under the 1998 Agreement (U.S., Canada, China and India).

3. UN Regulations for Tyres for ASEAN MRA and IWVTA

Major Contracting Parties under the 1958 Agreement adopt following UN Regulations for tyres.

Tyre UN Regulation		Vehicle Category	ASEAN MRA Candidate	IWVTA (M1 category vehicle)
Safety Regulation	UN R30	M1, N1, O1 and O2	Yes	Yes
	UN R54	M2, M3, N, O3 and O4	Yes	Yes
	UN R75	L	Yes	
Environmental Regulation	UN R117	M, N, and O		Yes

Vehicle Category (ECE/TRANS/WP.29/78/Rev.2)

M Passenger Cars

	Max Passenger seats (S) (including for Driver)	Vehicle weight (W)
M1	S ≦ 9	—
M2	S ≧ 10	W ≦ 5 tonnes
M3		W > 5 tonnes

N Commercial Vehicle

	Vehicle weight (W)
N1	W ≦ 3.5 tonnes
N2	3.5 < W ≦ 12 tonnes
N3	W ≧ 12 tonnes

O Trailers (including semi-Trailer)

	Vehicle weight (W)
O1	W ≦ 0.75 tonnes
O2	0.75 < W ≦ 3.5 tonnes
O3	3.5 < W ≦ 10 tonnes
O4	W ≧ 10 tonnes

4. Necessary Equipment/Facilities for UN Regulations for Tyres

In order to start the certification activity for tyre regulations, it is necessary to prepare installation of several test equipment/facilities.

Tyre UN Regulation		Equipment /Facility	Indoor /Outdoor
General		Mounting/Dismounting Air Inflation	Indoor
Safety Regulation	UN R30 UN R54 UN R75	Dimension	Indoor
		Drum test	Indoor
Environmental Regulation	UN R117	Tyre Rolling sound	Outdoor
		Rolling Resistance	Indoor
		Wet Grip	Outdoor

4. Necessary Equipment/ Facilities for UN Regulations for Tyres

Mounting Machine for Passenger Car Tyres

Tyre category	General use tyres	High performance tyres	Runflat tyres / EMT
Mounting machine Opt-1	Conventional machine + High performance machine		
Mounting machine Opt-2	To cover the weakness of the conventional machine, reinforced with accessory or accessories		

4. Necessary Equipment/ Facilities for UN Regulations for Tyres

Mounting Machine for Truck Bus Tyres

Tyre category	Conventional tyres		Wide base tyres
Mounting machine	Conventional machine	AND / OR	High spec model

Other equipment

Inflator cage

Compressor

Balancer

Test Rim

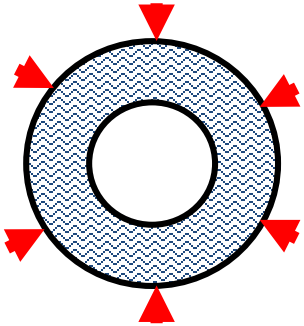
4. Necessary Equipment/ Facilities for UN Regulations for Tyres

(1) Equipment for Safety Regulation.

Dimension

Details of operation

Measurement procedure for Overall Width



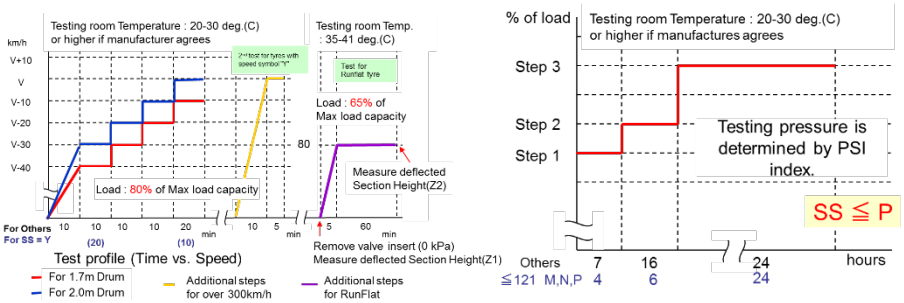
Tread Wear Indicator (TWI)

TWI Height = GD1 – GD2

Important points

Proper device
- Caliper
- Measure tape
- Laser profile machine etc.

Drum for High Speed Test / Endurance Test



Machine maintenance
- Load Cell
- Drum speed control etc.

Skillful operator

Air conditioning system

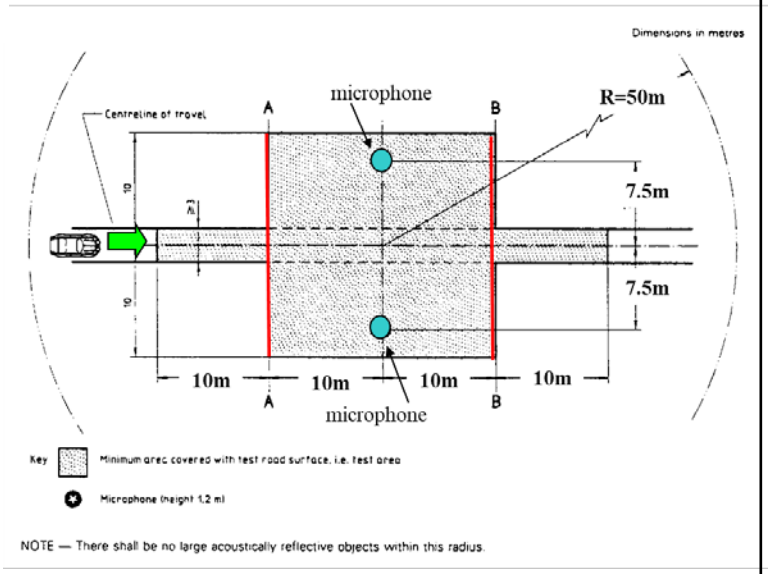
(2) Equipment/Test Track for Environmental Regulation.

Rolling Sound

Details of operation

Test track with ISO10844:2014 surface

Reference : Applus IDIADA



Important points

Proper device
- Microphone
- Sound level meter
- Instruments for Speed measurements
- Instruments for Temperature measurements (air and surface)
- Instruments for Wind measurement

(2) Equipment/Test Track for Environmental Regulation.

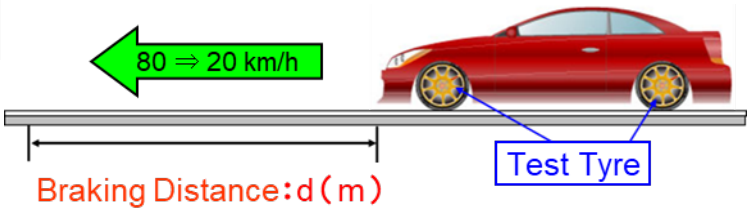
Wet Grip

Details of operation

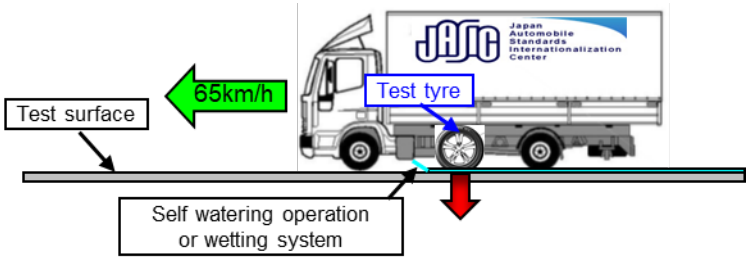
Test track : Dense Asphalt Concrete

Reference : Applus IDIADA

Vehicle Method



Trailer Method



Important points

Proper device
- Instruments to measure the wetted frictional properties of the surface
- Instruments for temperature measurements (air and surface)
- Instruments for wind measurement
- Instruments for speed measurement

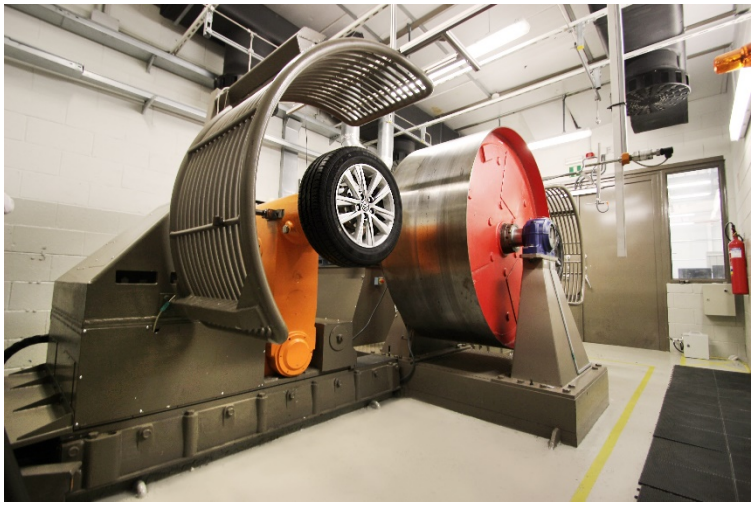
(2) Equipment/Test Track for Environmental Regulation.

Rolling Resistance Coefficient

Details of operation

Rolling Resistance test machine

Reference : Applus IDIADA



Machine for C1/C2 tyres

Machine for C3 tyres

Important points

Proper device
- Air conditioning system
- Smooth steel drum surface
- Instrument for temperature measurement (ambient temperature, drum surface)

Accuracy of inflation pressure

5. Benefits of Accession to the 1958 Agreement

What is the benefit of Accession to the 1958 Agreement?

- United Nations already established the necessary, suitable and proven regulations for tyres.

- If new Contracting Party(CP) under the 1958 Agreement is not ready for test facility for certification, CP can start to adopt UN Regulations by
  - Mutual recognition of certification which is issued by other CP countries
  - Designate the capable test facility as Technical Service and utilize the test report which is issued by Technical Service

- In consequence, it is feasible to adopt UN Regulations without the facility investment (can save the initial cost)

6. Expectations for Future ASEAN MRA

Tyre Industry expectations for future ASEAN MRA

- UN Regulations for Tyre Safety(UN R30/R54/R75) will be adopted in ASEAN MRA later, so therefore, the tyre industry expects that this will be the good starting point to consider the Accession to the 1958 Agreement.

- If ASEAN Countries would like to amend UN Regulation in order to adjust with the unique condition in ASEAN Countries, each country can raise the proposal or comment in each GR/Informal WG in United Nations, if the country accedes to the 1958 Agreement.

- Japan welcomes the accession by the ASEAN Countries.

7. Summary

- The system/scheme of the 1958 Agreement gives the benefit to adopt UN Regulations easily.

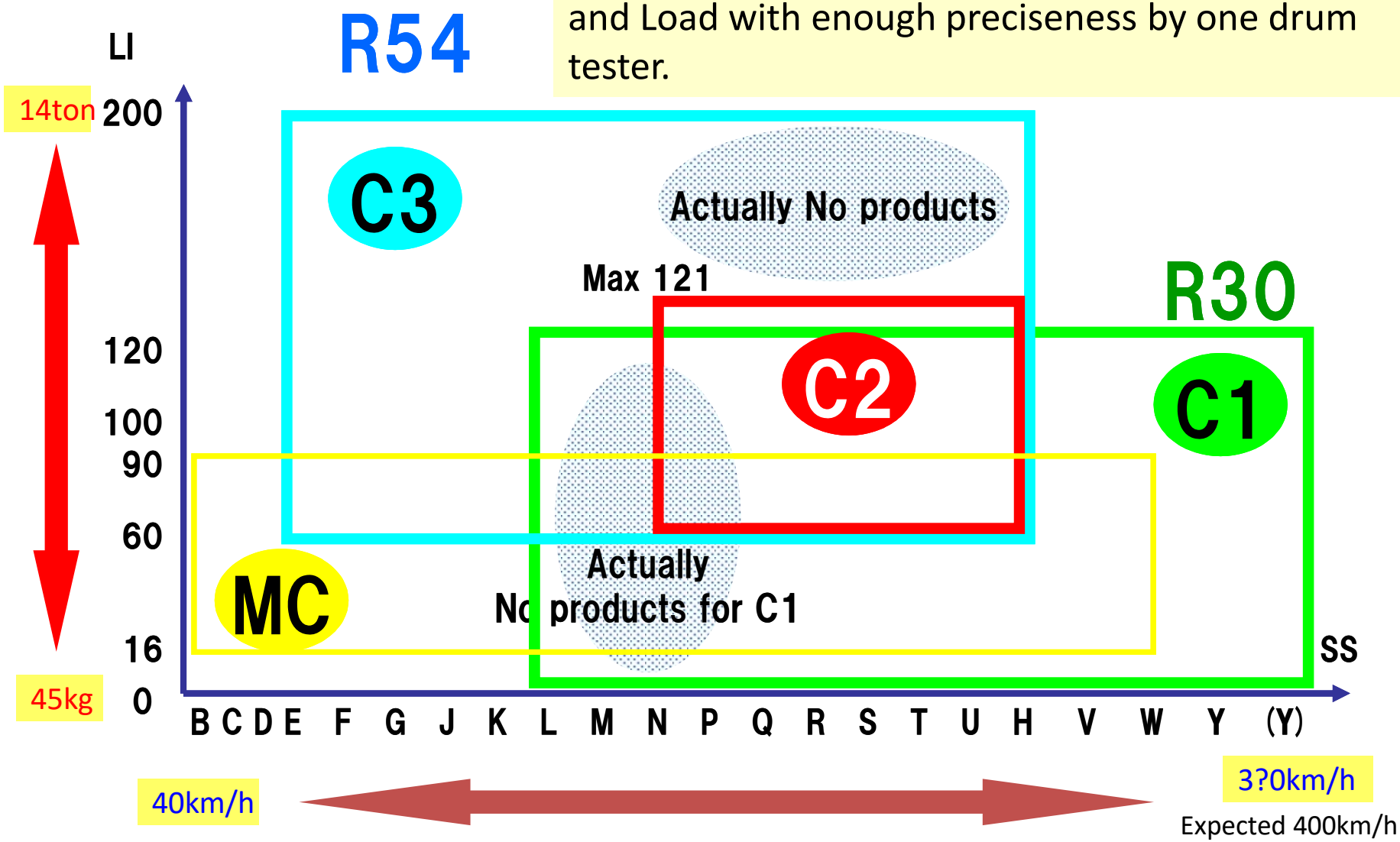
  - Mutual Recognition of the Certification
  - Designate Technical Service
  - Utilize the test report which is issued by Technical Service

- Japan expects to the ASEAN Countries for the future accession to the 1958 Agreement.

Thank you!

Appendix : How to cover overly widened range of Load/Speed

It is impossible to cover such wide range of Speed and Load with enough preciseness by one drum tester.



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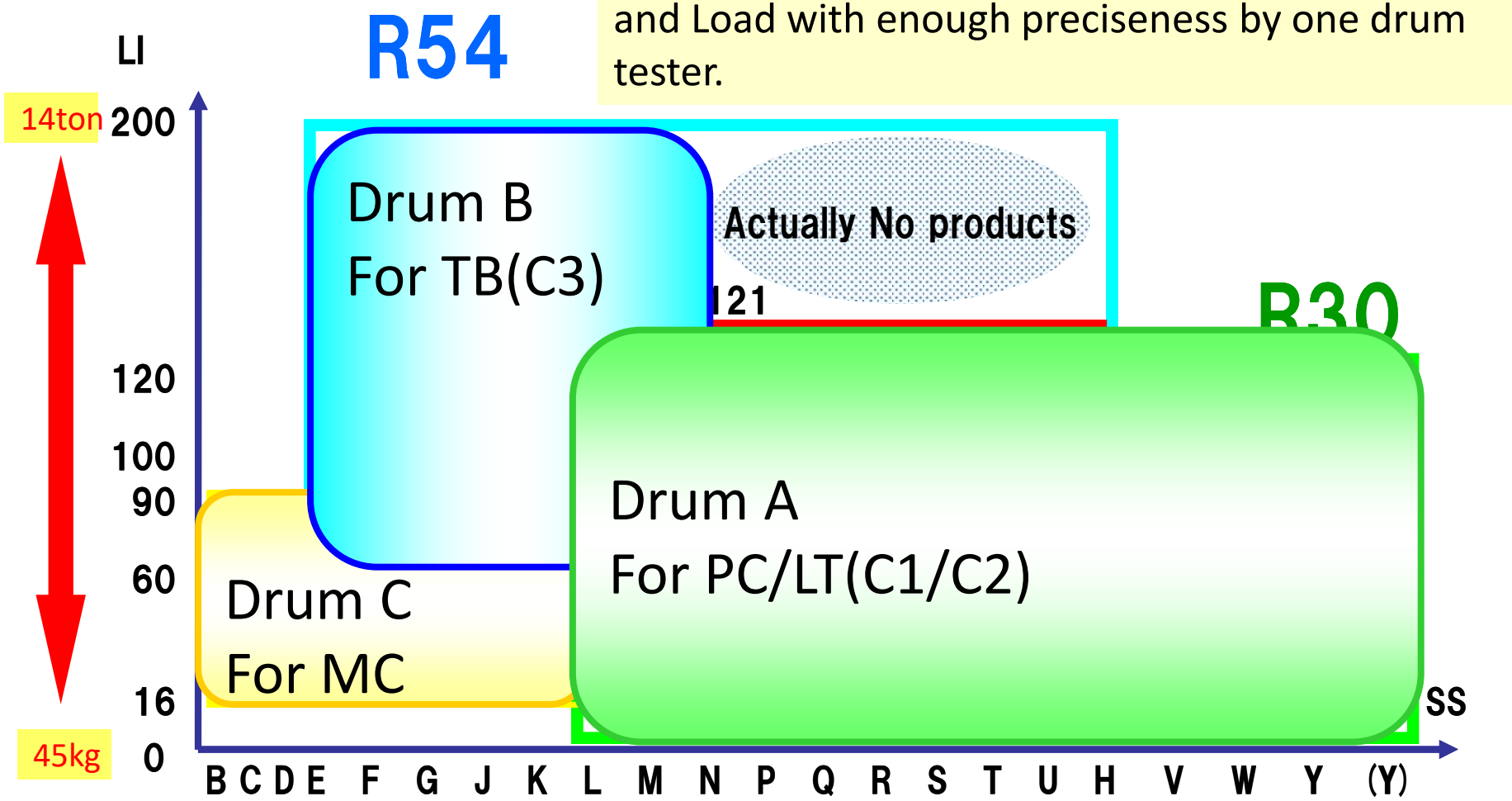

40km/h

3-drum operation will be recommended.

00km/h