

Tyre UN Regulation

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JAPAN AUTOMOBILE STANDARDS INTERNATIONALIZATION CENTER



The Japan Automobile Tyre Manufacturers Association

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Standards & Regulations Section 1

1. Position of component type approval under UNR
2. Tyre Safety Regulation of UNR
3. Tyre Environment Regulation of UNR
4. Summary

1. Position of component type approval under UNR

1) Regulation type

- There are 3 regulation types.

(1)Vehicle reg. only

(2)Vehicle & Component reg.

(3)Component reg. only

No.	UN-R	Name of UN Regulation	Component	System
1	13	Heavy Vehicle braking	-	X
2	13H	Braking of passenger cars	-	X
3	14	Safety-belt anchorages	-	X
4	16	Safety-belts	X	X
5	17	Strength of seats, their anchorages and head restraints	-	X
6	25	head restraints (headrests)	-	X
7	28	Audible warning devices	X	X
8	30	Tyre for passenger cars and their trailers	X	-
10	39	Speedometer and odometer	-	X
11	40	Emission of gaseous pollutants by motor cycles	-	X
12	41	Noise emissions of motorcycles	-	X
13	43	Safety glazing	X	X
14	46	Devices for indirect vision	X	X
15	49	Emissions of C.I. and P.I. (LPG and CNG) engines	-	X
16	51	Noise of M and N categories of vehicles	-	X
17	54	Tyre for commercial vehicles and their trailers	X	-
18	75	Tyre for L-category vehicles	X	-
19	79	Steering equipment	-	X
20	83	Emissions of M ₁ and N ₁ vehicles	-	X

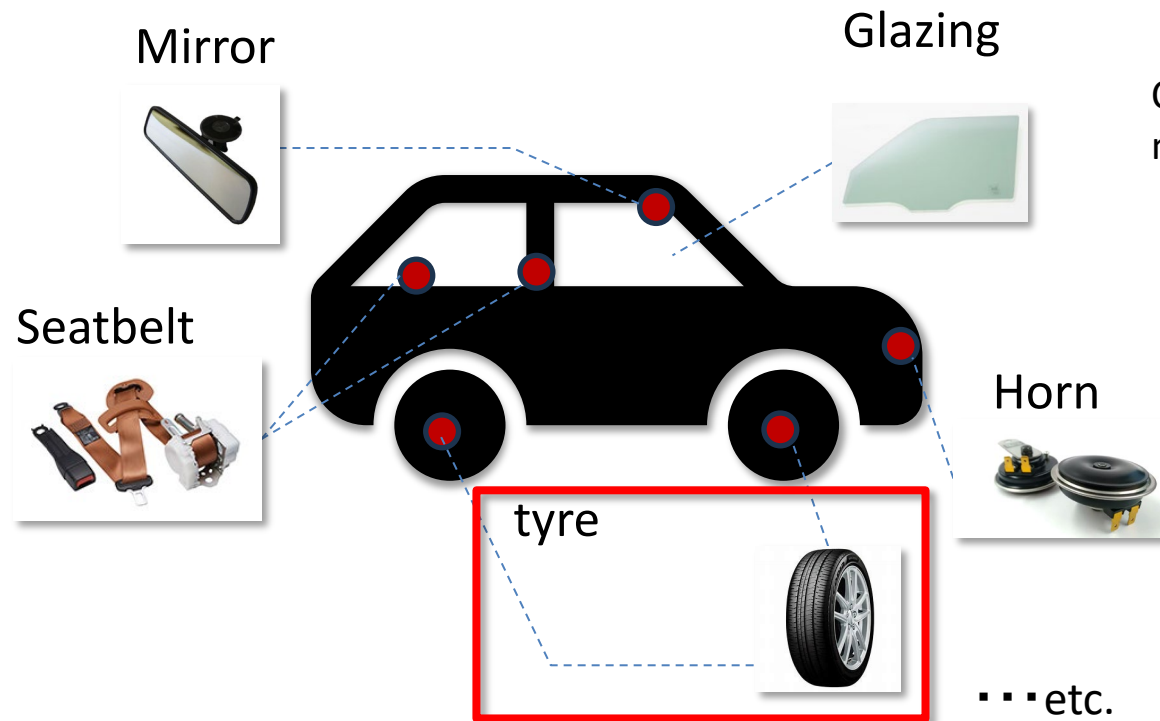
JATMA explain the component type approval for Tyre.

1. Position of component type approval under UNR

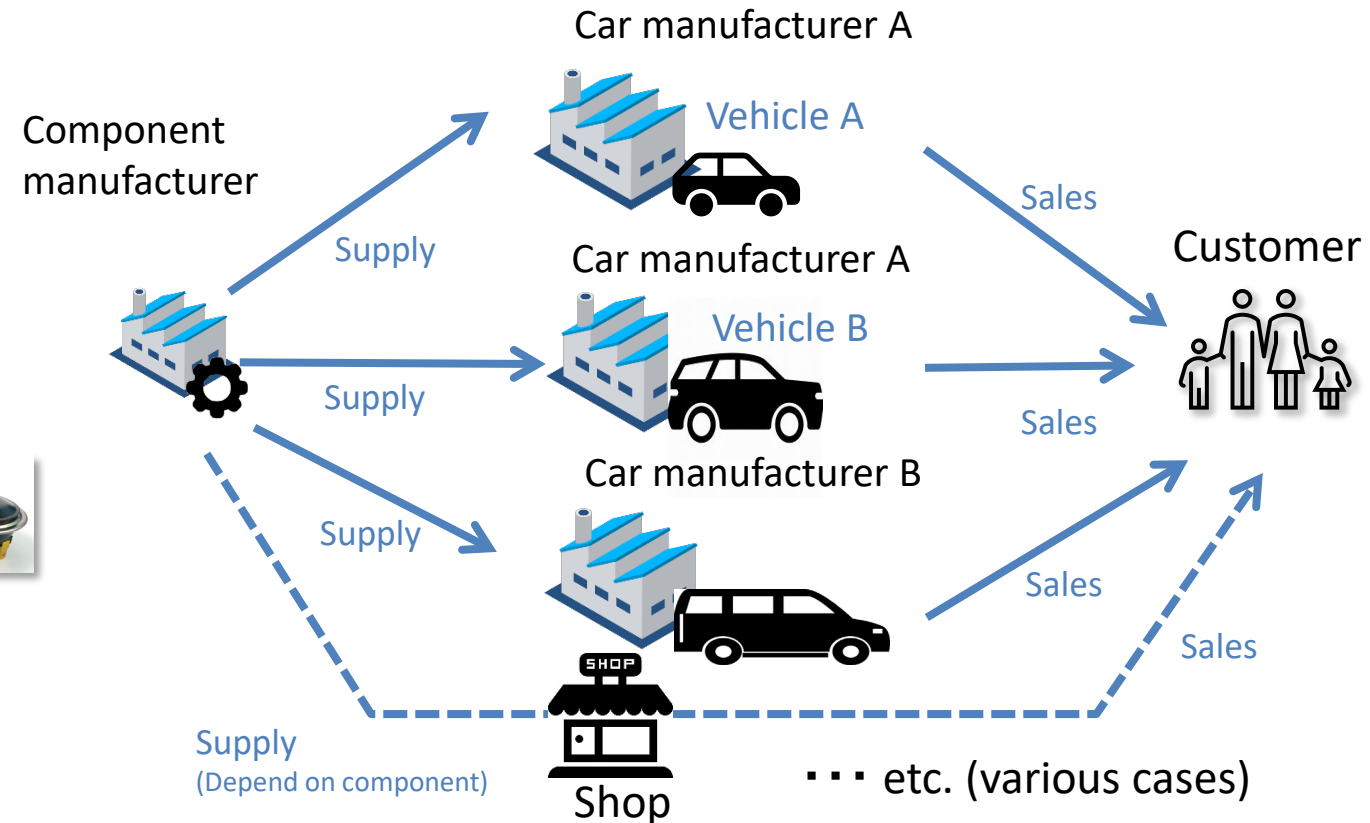
2) Supply/Sales destination

■ Components are used widely in variety of vehicle types/manufacturers.

➤ Vehicle and Components



➤ Supply/Sales destination



2. Tyre Safety Regulation of UNR

Background : Tyre is one of the Important Vehicle Parts

Pneumatic tyre is one of the most important vehicle parts to realize vehicle dynamic behavior.



Supporting the load



Absorbing the vibration



Transmitting the traction

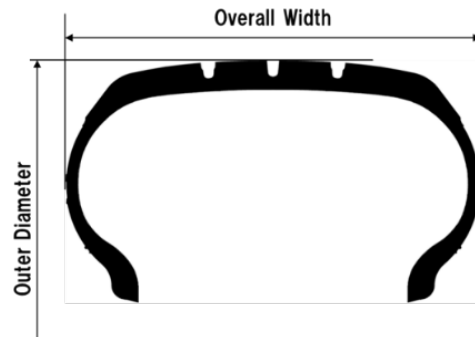


Changing & keeping the direction

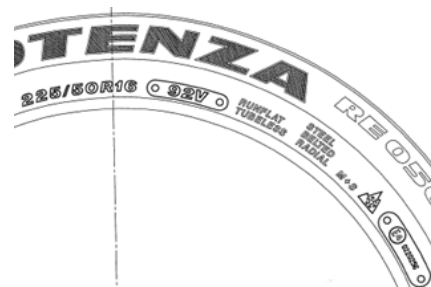


Tyres are made of composite materials

In order to keep vehicle safety, Safety Regulations related to tyre have been developed under the 1958 Agreement.



Dimension



Marking



High speed test

2. Tyre Safety Regulation of UNR

UN R30 is a tyre safety regulation for passenger car developed in the 1970's.

FMVSS 139 is also known as another representative regulation for passenger car tyre safety, and its underlying regulation was developed in the 1960's.

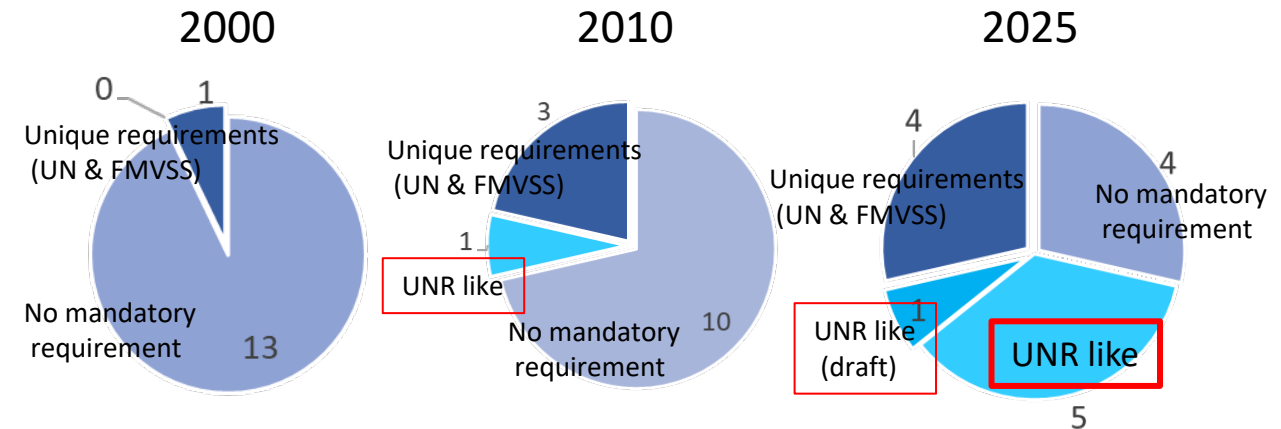
Comparison of regulatory requirements

		UN R30	FMVSS 139
General	Marking	●	●
	Dimensions	●	●
	Treadwear Indicator	●	●
Safety	High speed test	●	●
	Endurance test	-	▲
	Low inflation pressure test	-	▲
	Strength test	-	▲
	Bead Unseating	-	▲
	Flat tyre running mode	○ if applicable	-

Requirements originally developed for bias tyres which still remain and are applied for both radial and bias tyres in US

Adoption of UN R30 requirements in Asia

Number of regulations in Asia adopting UNR like



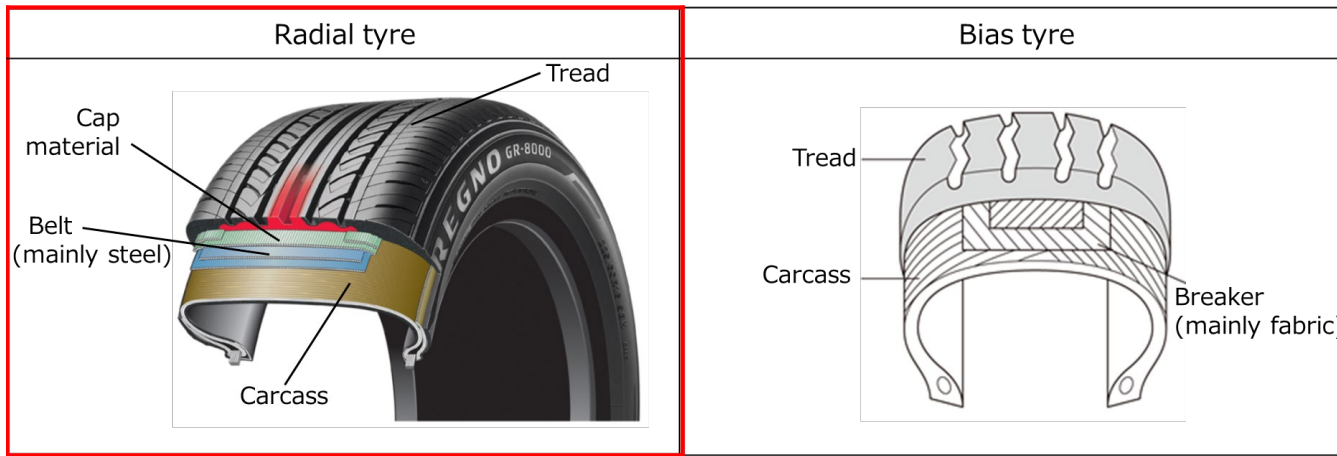
Referring to the requirements of UNR regarding tyre safety is becoming more common.

2. Tyre Safety Regulation of UNR

Appropriate safety performance requirements vary depending on the tyre structure.

- ✓ Test procedures of FMVSS was developed based on bias tyres in 1960's.
- ✓ UN R30 was developed in 1975 based on radial tyres, and its requirements have continued to be updated in recent years to reflect tyre evolution.
- ✓ For radial tyres, it is appropriate to apply only the requirement of UN R30.

Comparison of tyre structure



Radial tyre has advantage for safety

- ✓ Much stiff and robust due to steel belt and cap material
- ✓ Superior for vehicle handling, stability, high speed capability, wear resistance, heat up and air retention

UN R30 requirements are appropriate for radial tyre

		UN R30	FMVSS 139
General	Marking	●	●
	Dimensions	●	●
	Treadwear Indicator	●	●
Safety	High speed test	●	●
	Endurance test	-	▲
	Low inflation pressure test	-	▲
	Strength test	-	▲
	Bead Unseating	-	▲
	Flat tyre running mode	○ if applicable	-

Requirements originally developed for bias tyres which still remain and are applied for both radial and bias tyres in US

UN regulations have been updated as tyre evolution, and since they are both necessary and sufficient, it is appropriate to implement them as they are.

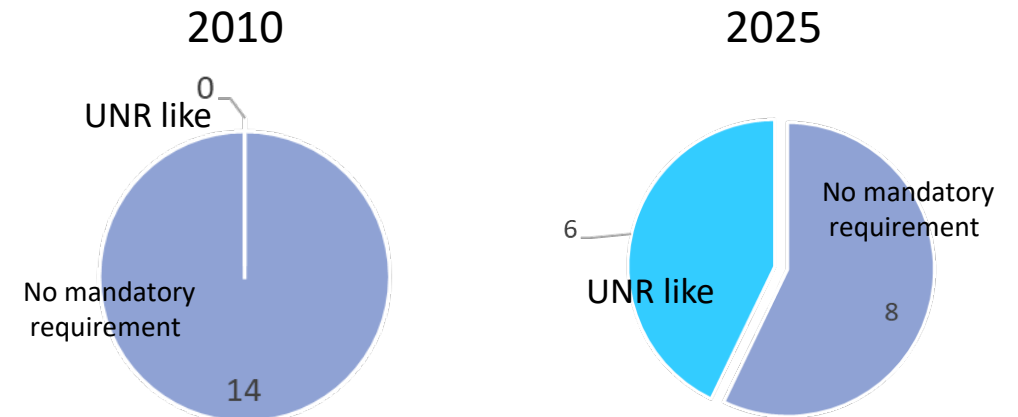
3. Tyre Environment Regulation of UNR

UN R117 is a tyre regulation related to environmental performance that was developed in the 2000s. In recent years, Japan has also been actively participating in the development of tyre agenda at WP.29/GRBP, working to reflect the situation in 1958 Agreement countries.

	UN R117	(New UNR)
Tyre Noise	●	-
Rolling Resistance	●	-
Wet Grip	●	-
Wet Grip on worn state	●	-
Tyre Abrasion	-	Under development

Currently, development is underway to address tyre abrasion.

Adoption of UN R117 requirements in Asia
Number of regulations in Asia adopting UNR like



UN regulations have been updated as tyre evolution, and since they are both necessary and sufficient, it is appropriate to implement them as they are.

We would like to participate in WP.29 with Asian one voice in order to reflect the circumstances of Asia.

1. Tyre is a typical example of a “Component Regulation only” case under UNR system.
2. Tyre is one of the Important Vehicle Parts
3. UN Regulations are robust enough for radial tyres and they always upgraded according to technology progress. For example, UN R30, the safety regulation for passenger car tyre, provides sufficient performance requirements for radial tyres. They do not require the same performance requirements as bias tyres, and it would be useful to accept UN R30 certification.
4. In recent years, there have been active discussions within WP.29/GRBP regarding the environmental performance of tyres. We would like to participate in WP.29 with Asian One Voice in order to reflect the circumstances of Asia.

Thank you!