



Informal document GRBP-71-26

Agenda item 5.d

Submitted by GRBP GOIE on 3PMSF

## Justification for ECE/TRANS/WP.29/GRBP/2019/14

Technical rationale for the proposed requirements for the new category of tyres **‘Special use tyre that is classified as tyre for use in severe snow conditions’**

GRBP January 29<sup>th</sup> 2020



*Some countries require vehicles to be fitted with 3PMSF-approved tyres in winter season or in wintery conditions*

*In UN R 117 those tyres are qualified as “tyres for use in severe snow conditions”*

*Some specific vehicles are equipped with special use tyres, that currently cannot be approved as 3PMSF and therefore cannot be qualified for use in severe snow conditions*

# Different Uses



Normal



3PMSF



Special



Special  
+ 3PMSF

?





Allow Special Use tyres to pass the qualification test in Annex 7 to UN R 117 and be approved to bear 3PMSF marking

Introduce specific allowances for special use + 3PMSF tyres taking into account existing allowances for existing 3PMSF approved tyres

Special use tyre

Snow tyre for use in  
severe snow conditions  
(3PMSF marked)



Fusion

"2.13.1. ~~"Snow tyre~~ **Tyre for use in severe snow conditions**" means a snow tyre **or a special use tyre** whose tread pattern, tread compound or structure is specifically designed to be used in severe snow conditions and that fulfils the requirements of paragraph 6.4. of this Regulation."

Normal tyre



Snow tyre that is classified as tyre for use in severe snow conditions



**Existing** design differences to comply with 3PMSF

- Tread pattern (more sipes and knife blades)
- Tread compound



Special use tyre

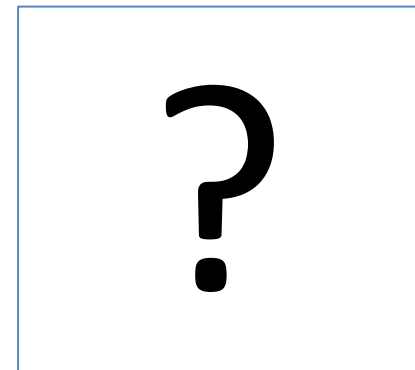


**NEW: Special use tyre that is classified as tyre for use in severe snow condition**



**Potential** design differences **needed** to comply with 3PMSF

- Tread pattern (sipes and knife blades)
- Tread compound
- Chip resistance + flexibility for snow conditions.





Specific allowances for special use + 3PMSF tyres should be the same as the existing allowances for existing 3PMSF approved tyres and special use tyres as the tread design of special use + 3PMSF tyres shall be adapted in order to comply with the already existing R117 Snow Performance threshold

# C2 R117 Regulatory Noise requirements



## Normal tyre

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Normal tyre		72	73



## Snow tyre that is classified as tyre for use in severe snow conditions

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Snow tyre		72	73
	Snow tyre for use in severe snow conditions	73	75

+1 dB(A) & +2 dB(A)  
Noise allowances that considered the specific 3PMSF tread pattern design

## Special use tyre

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Special use tyre		74	75



## NEW: Special use tyre that is classified as tyre for use in severe snow condition

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Special use tyre		74	75
	Special use tyre that is classified as tyre for use in severe snow conditions	75	77

The same +1 dB(A) & +2 dB(A) Noise allowances proposal to consider specific new tread pattern design



# C3 R117 Regulatory Noise requirements



## Normal tyre

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Normal tyre		73	75



Snow tyre that is classified as tyre for use in severe snow conditions

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Snow tyre		73	75
	Snow tyre for use in severe snow conditions	74	76

+1 dB(A) Noise allowances that considered the specific 3PMSF tread pattern design

## Special use tyre

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Special use tyre		75	77



**NEW: Special use tyre that is classified as tyre for use in severe snow condition**

Stage 2			
Category of use		Limit dB(A)	
		Other	Traction tyres
Special use tyre		75	77
	Special use tyre that is classified as tyre for use in severe snow conditions	76	78

The same +1 dB(A) Noise allowances proposal to consider specific new tread pattern design

# C1 R117 Regulatory Wet Grip requirements



Category of use		Wet grip index (G)
Normal tyre		≥ 1.1
Snow tyre		≥ 1.1
	"Snow tyre <b>that is classified as tyre</b> for use in severe snow conditions" and with a speed symbol ("R" and above, including "H") indicating a maximum permissible speed greater than 160 km/h	≥ 1.0
	"Snow tyre <b>that is classified as tyre</b> for use in severe snow conditions" and with a speed symbol ("Q" or below, excluding "H") indicating a maximum permissible speed not greater than 160 km/h	≥ 0.9
Special use tyre		Not defined
	<b>Special use tyre that is classified as tyre for use in severe snow conditions</b>	<b>Not defined</b>

The same requirements

# C2 R117 Regulatory Wet Grip requirements



Category of use		Wet grip index (G)	
		Other	Traction tyres
Normal tyre		≥ 0.95	≥ 0.85
Snow tyre		≥ 0.95	≥ 0.85
	Snow tyre <b>that is classified as tyre</b> for use in severe snow conditions	≥ 0.85	≥ 0.85
Special use tyre		≥ 0.85	≥ 0.85
	<b>Special use tyre that is classified as tyre for use in severe snow conditions</b>	<b>≥ 0.85</b>	<b>≥ 0.85</b>

The same requirements

# C3 R117 Regulatory Wet Grip requirements



Category of use		Wet grip index (G)	
		Other	Traction tyres
Normal tyre		≥ 0.80	≥ 0.65
Snow tyre		≥ 0.65	≥ 0.65
	Snow tyre <b>that is classified as tyre</b> for use in severe snow conditions	≥ 0.65	≥ 0.65
Special use tyre		≥ 0.65	≥ 0.65
	<b>Special use tyre that is classified as tyre for use in severe snow conditions</b>	<b>≥ 0.65</b>	<b>≥ 0.65</b>

The same requirements



*Paragraph 6.3.1., last sentence, amend to read:*

"For " tyres for use in severe snow conditions", the limits shall be increased by 1 N/kN."

*Paragraph 6.3.2., last sentence, amend to read:*

"For " tyres for use in severe snow conditions", the limits shall be increased by 1 N/kN."

The same requirements



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Thank you

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