







Patch application chart

Cargo and Passenger

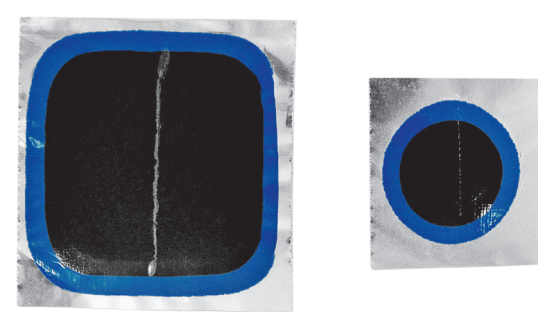
2015







RAC PATCHES- Passenger



Radial Tyres	Dimensions	Speed Index				
			C x R (mm)	ØO (mm)	ØB (mm)	RAC
	145	S - T	10 X 15	6	10	10
	155		15 X 30	-	12	12
	165		20 X 35	8	20	14
	175	H - V	6 X 6	3	6	10
	185		10 X 10	6	10	14
	195		3 X 3	3	6	10
	205	≥V	-	-	8	15

VF AND VFP REPAIRS - Cargo and Passenger

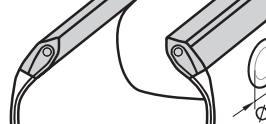














Radial and Bias Ply Tyres	Damages	VF/VFP	
   	mm		
	3	-	3
	6	-	6
	8	-	8

- VF use in trucks and buses is only recommended on radial tyres.
- VF application on passenger vehicles: speed index T on damage up to 8mm, H-V up to 6mm and \geq V up to 3mm.

VD AND VDL PATCHES - Cargo and Passenger



Bias Ply Tyres													
		THROUGH THE TYRE PENETRATION											
		D (max.)											
     	Ply Capacity	5mm	10mm	15mm	25mm	30mm	35mm	50mm	70mm	75mm	100mm	125mm	
	4	1	2	3	3	4	4	5	-	-	-	-	
	6.8	1	2	3	4	4	4	5	-	-	-	-	
	10.12	2	3	4	5	5	5	6	7	7	8	-	
	14.16	3	3	4	6	6	6	7	7	7	8	10	
	18.20	4	4	5	6	7	7	8	9	9	9	10	
	22.24	4	4	5	6	7	7	8	9	9	10	10	
		DAMAGES THAT DO NOT GO THROUGH THE TYRE*											
     	10.12	1	2	2	3	3	3	4	4	4	5	-	
	14.16	2	2	3	3	4	4	4	5	5	5	6	
	18.20	3	3	4	4	5	5	5	5	6	6	7	
	22.24	3	4	4	5	5	5	6	6	6	7	8	
	26.28	4	4	5	6	6	6	7	7	7	8	9	
	30.32	4	5	5	6	7	7	8	8	8	9	10	

OD - Diameter of damage measured on the 2nd external tyre ply.

*Damages that do not go through the tyre in bias ply tyres of trucks and buses require the application of patches when the damage exceeds 30mm, reaching 3 or more casing plies.


In order to guide the application of tyres repairs, Vival Rubber certifies that all materials for tyre repairing provided by the company follow the characteristics required by the Mercosul NBR-NM225/2000 norm, the ordinances 444/2010 and 19/2012 from Inmetro, the European Union regulations ECE-R 108 (Passenger Car's Tyres) and ECE-R 109 (Cargo Tyres). This declaration is valid as long as all technical orientations are followed according to Vival's Repair Handbooks and/or use instructions accompanying products. The permitted repair area must be respected, as well as the maximum amount of repairs per tyre. Patches should never be overlapped. When these conditions are respected, Vival's Radial and Bias Ply repairs support up to twice as much pressure than that established by the manufacturer. A chart with the specifications of patch amounts per tyre follows.


Norm Mercosul NBR NM - 225 - OCT/2000

RAC, RA AND RS PATCHES - Cargo

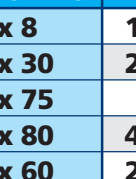


RAC, RA AND RS PATCHES - CARGO







6.00 - 7.50
7R - 8.5R
165 - 265




C x R (mm)	RAC	RA	RS
8 x 8	14	-	-
15 x 30	20	31	31
10 x 75	-	33	33
10 x 80	40	-	-
15 x 60	22	-	-
20 x 50	22	-	-
20 x 60	-	33	33
20 x 90	-	35	35
25 x 60	40	-	-
30 x 60	-	35	35



ØO (mm)	RAC	RA	RS
5	14	-	-
8	20	-	-
10	22	31	31
12	-	33	33
15	40	35	35





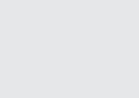
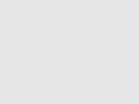


ØB (mm)	RAC	RA	RS
6	12	-	-
10	-	31	31
12	15	-	-
14	14	-	-
15	20	-	25B
20	-	33	33
25	40	35	35




C x R (mm)	RAC	RA	RS
6 x 6	12	-	-
10 x 10	-	31	31
12 x 15	15	-	-
12 x 20	14	-	-
15 x 15	-	-	25B
15 x 20	20	-	-
15 x 25	22	-	-
20 x 30	-	33	33
25 x 40	40	35	35


RAC, RA AND RS PATCHES - CARGO
LI min. 122 - LI max. 158

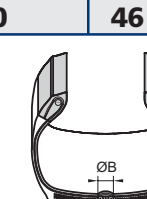
8.25 - 14.75
9R - 13R
205 - 285
295 - 385



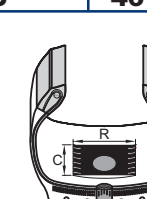
C x R (mm)	RAC	RA	RS
4 x 80	24	-	-
6 x 10	20	-	-
8 x 60	24	-	-
10 x 30	22	-	-
10 x 70	26	-	-
10 x 110	42	-	-
10 x 140	-	37	37
12 x 30	-	31	31
12 x 60	26	-	-
12 x 75	-	33	33
15 x 130	-	37	37
15 x 150	-	39	39
20 x 60	40	-	-
20 x 90	-	35	35
20 x 135	44	-	-
25 x 80	42	-	-
25 x 120	-	37	37
25 x 140	46	-	-
30 x 100	-	39	39
35 x 80	-	39	39
40 x 80	44	-	-
40 x 85	-	39	39
45 x 90	46	-	-



ØB (mm)	RAC	RA	RS
8	20	-	-
10	-	31	31
15	40	33	33
20	42	35	35
25	44	37	37
30	46	39	39

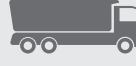


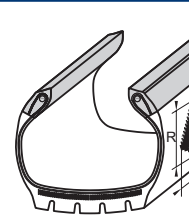
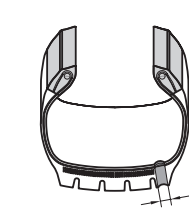
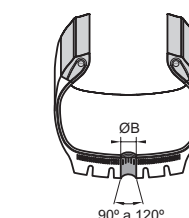
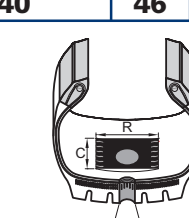


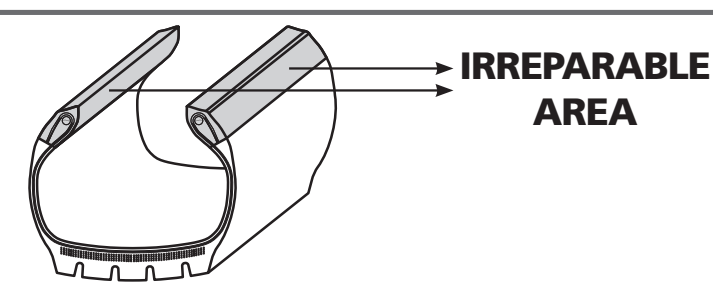
ØB (mm)	RAC	RA	RS
4	10	-	-
6	12	-	-
8	14	-	-
10	15	29	-
12	20	-	-
15	22	31	31
18	-	-	250
20	25	33	33
20	40	-	-
25	-	-	350
30	42	35	35
35	-	37	37
40	35	-	450
40	44	-	-
45	46	-	-



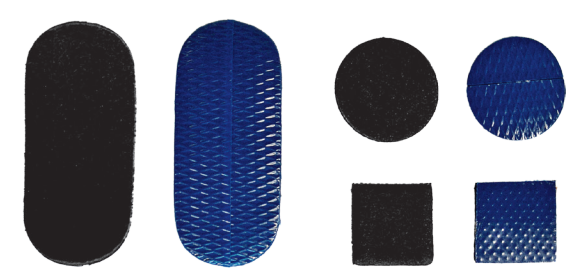
C x R (mm)	RAC	RA	RS
10 x 10	-	31	31
10 x 12	15	-	-
10 x 25	22	-	-
12 x 20	20	-	-
18 x 25	-	-	250
20 x 30	-	33	33
20 x 35	25	-	-
20 x 40	40	-	-
25 x 35	-	-	350
30 x 50	42	35	35
35 x 70	-	37	37
40 x 60	35	-	450
40 x 65	45	-	-
40 x 70	44	-	-
40 x 80	46	39	39







RAC, RA AND RS PATCHES - CARGO
Ll min. 159 - Ll max. 178

Radial Tyres	Dimensions																																																																									
  	14.00 - 16.00 15R - 24R 375 - 495																																																																									
		<table><tr><th>C x R (mm)</th><th>RAC</th><th>RA</th><th>RS</th></tr><tr><td>10 x 20</td><td>-</td><td>31</td><td>31</td></tr><tr><td>10 x 50</td><td>-</td><td>33</td><td>33</td></tr><tr><td>10 x 90</td><td>-</td><td>35</td><td>35</td></tr><tr><td>10 x 100</td><td>42</td><td>-</td><td>-</td></tr><tr><td>10 x 160</td><td>-</td><td>39</td><td>39</td></tr><tr><td>12 x 30</td><td>40</td><td>-</td><td>-</td></tr><tr><td>12 x 110</td><td>-</td><td>37</td><td>37</td></tr><tr><td>15 x 120</td><td>-</td><td>39</td><td>39</td></tr><tr><td>15 x 170</td><td>-</td><td>-</td><td>43</td></tr><tr><td>20 x 60</td><td>42</td><td>35</td><td>35</td></tr><tr><td>20 x 130</td><td>44</td><td>-</td><td>41</td></tr><tr><td>25 x 70</td><td>-</td><td>37</td><td>37</td></tr><tr><td>30 x 60</td><td>44</td><td>-</td><td>-</td></tr><tr><td>30 x 80</td><td>-</td><td>39</td><td>39</td></tr><tr><td>30 x 140</td><td>46</td><td>-</td><td>-</td></tr><tr><td>40 x 80</td><td>-</td><td>-</td><td>41</td></tr><tr><td>45 x 100</td><td>46</td><td>-</td><td>43</td></tr></table>	C x R (mm)	RAC	RA	RS	10 x 20	-	31	31	10 x 50	-	33	33	10 x 90	-	35	35	10 x 100	42	-	-	10 x 160	-	39	39	12 x 30	40	-	-	12 x 110	-	37	37	15 x 120	-	39	39	15 x 170	-	-	43	20 x 60	42	35	35	20 x 130	44	-	41	25 x 70	-	37	37	30 x 60	44	-	-	30 x 80	-	39	39	30 x 140	46	-	-	40 x 80	-	-	41	45 x 100	46	-	43
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REMOPAT - Passenger



Radial and Bias Ply Tyres	Ø DAMAGES (mm)	
	1	 Remopat 1 Remopat with polyester base 1
	2	 Remopat 36 Remopat with polyester base 36 Remopat with ply strip 20x20
	3	 Remopat 50 Remopat with ply strip 35x35
	3x1	 Remopat 2

Remopat Application Chart
Remopat is designed for repairing damages in the tread area, of a 3mm maximum, in radial and bias ply passenger car tyres retreaded via the remolding process.

DECLARATION FOR PATCH APPLICATION

Types of tyre categories		Maximum amount of patches allowed per tyre
B I A S P L Y	Automobiles and light-weight trailers.	2
	Mixed use pick-up trucks and trailers	4
	Trucks, buses, microbuses, and trailers/semtrailers < 9.00-20.	6
	≥ 9.00-20.	6
R A D I A L	Automobiles and lightweight trailers. Speed index S and T.	2
	Speed index H.	1
	Speed index V and above.	NP
	Pick-up trucks or their derivatives and trailers.	6
	Trucks and buses and their derivatives and trailers with sectional height below or equal to 230 mm.	6
	Trucks and buses and their derivatives and trailers with sectional height above 230 mm.	6

NP: not permitted

ATTENTION!

These application charts are valid globally for Vivalp repairs. The magnitude of the damages in the charts is the result of on-field experience. The applicator must always analyze whether the tyre's physical conditions allow safe repairing. Inspecting the casing is essential for checking for other non-apparent damages. Maximum limits of damages must be respected. Repairs with dimensions over the ones estimated in this chart, which may be allowed by law in some countries, are not taken into consideration here. The responsibility over the repair's quality falls into the hands of the applicator, who judges and increases or reduces the values if necessary, always respecting local legislation. The correct methods of application and mounting must always be considered, as well as the tyre's manufacturer instructions of repair.

NOMENCLATURE

C - Circumference - Damage size measured in the direction of tyre rotation.

R - Radial - Damage size measured from bead to bead (Radial).

ØB - Tread - Diameter of through the tyre penetration in the tread.

ØØ - Shoulder - Diameter of through the tyre penetration in tyre's shoulder.

Through the tyre penetrations in the tread area of radial tyres in trucks and buses that reach the working belt closer to the casing ply, with measure over 8mm, always require a patch.