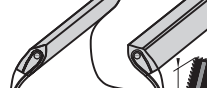
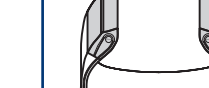




Commercial Vehicles and Passenger Cars

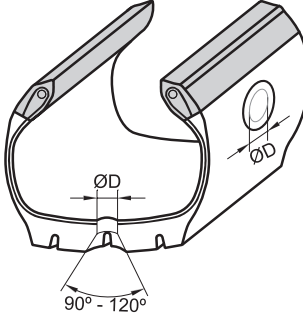
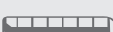
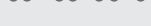
2016

A black, rectangular, textured object, likely a car floor mat or a similar automotive component. It features the VIPAL RACING logo in the center, which consists of a stylized blue and white 'V' followed by the word 'VIPAL' in white and 'RACING' in smaller white letters below it. Below the logo, the text 'RAC 12' is printed in white. At the bottom, there is a white horizontal bar with arrows pointing outwards at both ends.

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		6 X 6	3	6	10
	185	H - V	10 X 10	6	10	14
	195		3 X 3	3	6	10
	205		≥V	-	8	15

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

- VF/VFP application on passenger vehicles: speed index T on damage up to 8mm, H-V up to 6mm and $\geq$ V up to 3mm.

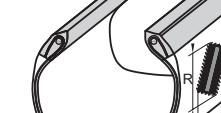
Bias Ply Tyres													
		THROUGH THE TYRE PENETRATION											
		D (max.)											
       	Ply Capacity	5mm	10mm	15mm	25mm	30mm	35mm	50mm	70mm	75mm	100mm	125mm	
	4	1	2	3	3	4	4	5	-	-	-	-	
	6.8	1	2	3	4	4	4	5	-	-	-	-	
	10.12	2	3	4	5	5	5	6	7	7	8	-	
	14.16	3	3	4	5	6	6	7	7	7	8	10	
	18.20	4	4	5	6	7	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		

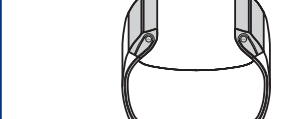
OD - Diameter of damage measured on the 2nd external tyre ply.

*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.

*For the same size of damage, there can be indications of different sizes of RAC patches. The patches that have ending "5" are destined for damages centralized in the tread. The others are for damages where the patch's edge is placed at the shoulders.

RAC, RA AND RS PATCHES - COMMERCIAL VEHICLES
LI max. 121

Radial Tyres	Dimensions																																													
																																														
		<table><tr><th>C x R (mm)</th><th>RAC</th><th>RA</th><th>RS</th></tr><tr><td>8 x 8</td><td>14</td><td>-</td><td>-</td></tr><tr><td>15 x 30</td><td>20</td><td>31</td><td>31</td></tr><tr><td>10 x 75</td><td>-</td><td>33</td><td>33</td></tr><tr><td>10 x 80</td><td>40</td><td>-</td><td>-</td></tr><tr><td>15 x 60</td><td>22</td><td>-</td><td>-</td></tr><tr><td>20 x 50</td><td>22</td><td>-</td><td>-</td></tr><tr><td>20 x 60</td><td>-</td><td>33</td><td>33</td></tr><tr><td>20 x 90</td><td>-</td><td>35</td><td>35</td></tr><tr><td>25 x 60</td><td>40</td><td>-</td><td>-</td></tr><tr><td>30 x 60</td><td>-</td><td>35</td><td>35</td></tr></table>	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
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

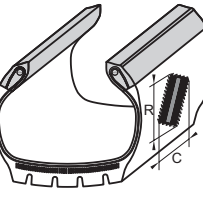
 	6.00 - 7.50				
	7R - 8.5R				
	165 - 265				
		ØB (mm)	RAC	RA	RS
		6	12	-	-
		10	-	29	-
		12	15	31	31
		14	14	-	-
		15	20	25B	25B
		20	-	33	33
		25	40	35	35

C x R (mm)	RAC	RA	RS
6 x 6	12	-	-
10 x 10	-	29	-
12 x 12	-	31	31
12 x 15	15	-	-
12 x 20	14	-	-
15 x 15	-	25B	25B
15 x 20	20	-	-
15 x 25	22	-	-
20 x 30	-	33	33
25 x 40	40	35	35

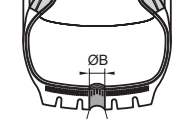
Radial and Bias Ply Tyres	Ø DAMAGES (mm)		
	1	-	Remopat 1 Remopat with polyester base 1
	2	-	Remopat 36 Remopat with polyester base 36 Remopat with reinforcement ply 20x20
	3	-	Remopat 50 Remopat with reinforcement ply 35x35
	3x1	-	Remopat 2

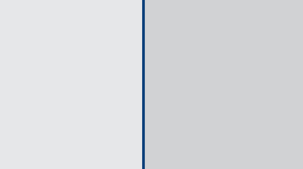
Remopat is designed for repairing damages in the tread area, of a 3mm maximum, in radial and bias ply passenger car tyres, retreaded via the bead to bead process.

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

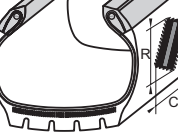
Radial Tyres	Dimensions				
		C x R (mm)	RAC	RA	RS
		4 x 80	24	-	-
		6 x 10	20	-	-
		8 x 60	24	-	-
		10 x 30	22	-	-
		10 x 70	26	-	-
		10 x 110	42	-	-
		10 x 140	-	37	37
		12 x 30	-	31	31
		12 x 60	26	-	-
		12 x 75	-	33	33
		15 x 130	-	37	37
		15 x 150	-	39	39
		20 x 60	40	-	-
		20 x 90	-	35	35
		20 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	-	-

			
ØO (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

	8.25 - 14.75																																																																	
	9R - 13R																																																																	
	205 - 285																																																																	
	295 - 385																																																																	
		<table> <tr> <th>ØB (mm)</th><th>RAC</th><th>RA</th><th>RS</th></tr> <tr><td>4</td><td>10</td><td>-</td><td>-</td></tr> <tr><td>6</td><td>12</td><td>-</td><td>-</td></tr> <tr><td>8</td><td>14</td><td>-</td><td>-</td></tr> <tr><td>10</td><td>15</td><td>29</td><td>-</td></tr> <tr><td>12</td><td>20</td><td>-</td><td>-</td></tr> <tr><td>15</td><td>22</td><td>31</td><td>31</td></tr> <tr><td>18</td><td>-</td><td>25B</td><td>25B</td></tr> <tr><td>20</td><td>25</td><td>33</td><td>33</td></tr> <tr><td>20</td><td>40</td><td>-</td><td>-</td></tr> <tr><td>25</td><td>-</td><td>35B</td><td>35B</td></tr> <tr><td>30</td><td>42</td><td>35</td><td>35</td></tr> <tr><td>35</td><td>-</td><td>37</td><td>37</td></tr> <tr><td>40</td><td>35</td><td>45B</td><td>45B</td></tr> <tr><td>40</td><td>44</td><td>-</td><td>-</td></tr> <tr><td>45</td><td>46</td><td>-</td><td>-</td></tr> </table>	ØB (mm)	RAC	RA	RS	4	10	-	-	6	12	-	-	8	14	-	-	10	15	29	-	12	20	-	-	15	22	31	31	18	-	25B	25B	20	25	33	33	20	40	-	-	25	-	35B	35B	30	42	35	35	35	-	37	37	40	35	45B	45B	40	44	-	-	45	46	-	-
ØB (mm)	RAC	RA	RS																																																															
4	10	-	-																																																															
6	12	-	-																																																															
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10	15	29	-																																																															
12	20	-	-																																																															
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18	-	25B	25B																																																															
20	25	33	33																																																															
20	40	-	-																																																															
25	-	35B	35B																																																															
30	42	35	35																																																															
35	-	37	37																																																															
40	35	45B	45B																																																															
40	44	-	-																																																															
45	46	-	-																																																															

				
C x R (mm)	RAC	RA	RS	
10 x 10	-	29	-	
10 x 12	15	-	-	
10 x 25	22	-	-	
12 x 20	20	-	-	
15 x 15	-	31	31	
18 x 25	-	25B	25B	
20 x 30	-	33	33	
20 x 35	25	-	-	
20 x 40	40	-	-	
25 x 35	-	35B	35B	
30 x 50	42	35	35	
35 x 70	-	37	37	
40 x 60	35	45B	45B	
40 x 65	45	-	-	
40 x 70	44	-	-	
40 x 80	46	39	39	

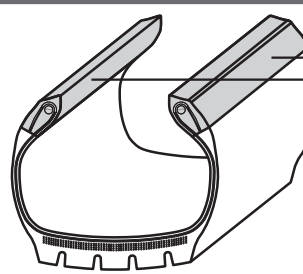
RAC, RA AND RS PATCHES - COMMERCIAL VEHICLES
LI min. 159 - LI max. 178

Radial Tyres	Dimensions				
		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	43
		20 x 60	42	35	35
		20 x 130	44	41	41
		25 x 70	-	37	37
		30 x 60	44	-	-
		30 x 80	-	39	39
		30 x 140	46	-	-
		40 x 80	-	41	41
		45 x 100	46	43	43

[illegible]

15R - 24R
375 - 495

ØB (mm)	RAC	RA	RS
10	20	-	-
12	-	31	31
15	25	-	-
15	40	33	33
18	-	25B	25B
20	42	35	35
25	-	35B	35B
30	44	39	39
35	35	41	41
38	45	-	-
40	46	45B	45B



**NON
REPAIRABLE
AREA**

ATTENTION!

These application charts are valid globally for Vivalp repairs. The magnitude of the damages in the charts is the result of on-field experiences. 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 head to head (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.

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/semitrailers < 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 - LI: load index

Norm Mercosul NBR NM - 225 - OCT/2000