TATNEFT

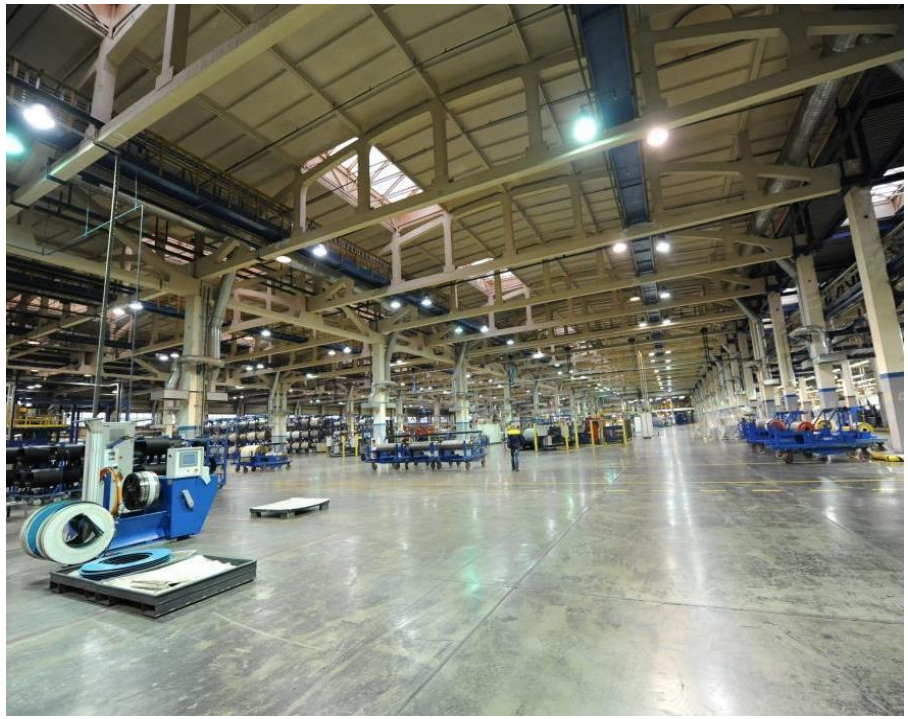
KAMA TYRES

EXPERTISE. CONFIDENCE. LEADERSHIP

April, 2017

KAMA TYRES
NIZHNEKAMSK
ALL STEEL TIRE PLANT

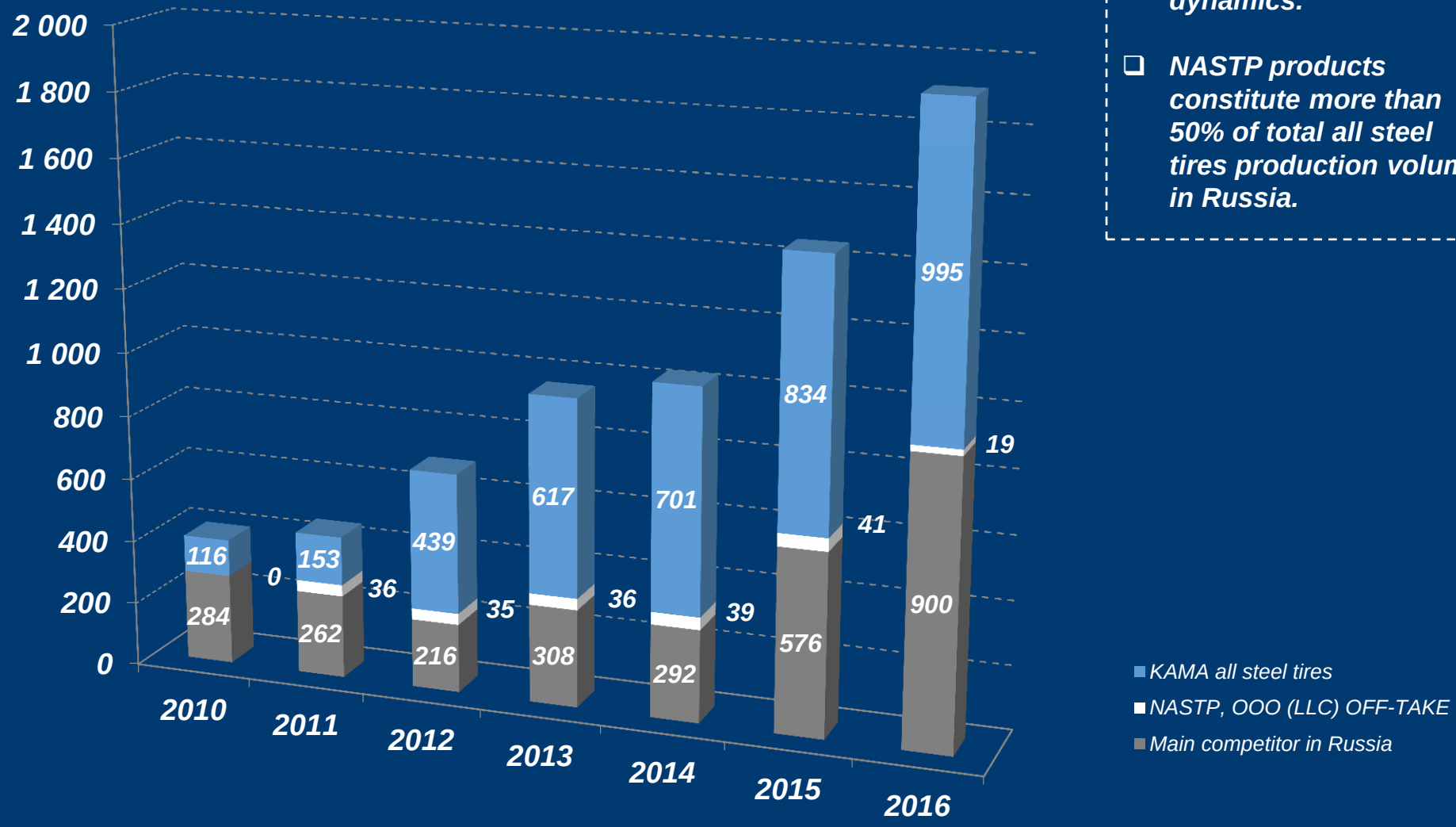
NASTP, OOO (LLC) KAMA all steel tire manufacturing plant is a member of TATNEFT, PAO (PJSC) Group of Companies. It has been producing since 2010. The designed capacity is 1,2 million pieces of all steel truck tires per year.



- *KAMA all steel tires are manufactured on modern production facilities that have no counterparts in Europe and Asia. The rubber compound manufacturing process, steel cord calendering process, tire components manufacturing and the final build are performed on automatic close control equipment.*
- *The recipe of rubber compounds on the base of natural rubber and silica provides the high quality of KAMA all steel tires. The whole range of in-plant quality control measures guarantees its customers exceptionally reliable and proven products.*
- *Product range includes 55 commodity items, 20 sizes of tires with bead seat diameter from 17,5 to 24 inches.*
- *The plant also produces off-take tires for foreign partner.*

- *Stable production volume growth dynamics.*
- *NASTP products constitute more than 50% of total all steel tires production volume in Russia.*



Vehicle axle application	Highway tires (1) 	Regional and local road tires (2) 	In-town tires (3) 	Winter tires (5) 	Mixed use tires (7) 
Steering	NF 101	NF 201 NF 201+ NF 202		NF 501	NF 701
Driving	NR 101	NR 201 NR 202		NR 501	NR 701
Trailer	NT 101	NT 201 NT 202 NT 202+			NT 701
Universal			NU 301		NU 701 NU 702

Steering axle tires						Universal tires		
NF 101	NF 201	NF 201+	NF 202	NF 501	NF 701	NU 301	NU 701	NU 702
								
315/70R22.5	245/70R19.5 275/70R22.5 295/80R22.5 315/80R22.5	315/60R22.5	215/75R17.5 235/75R17.5 245/70R17.5 285/70R19.5 295/75R22.5 295/80R22.5 315/70R22.5 315/80R22.5 385/65R22.5 12R22.5	295/80R22.5 315/70R22.5	11R22.5	215/75R17.5 225/75R17.5 245/70R19.5 275/70R22.5 295/80R22.5 305/70R22.5	295/80R22.5 315/80R22.5 12R22.5	12.00R24
			M+S	M+S 3PMSF		M+S	M+S	M+S

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Driving axle tires					Trailer axle tires			
NR 101	NR 201	NR 202	NR 501	NR 701	NT 201	NT 202 NT 202+	NT 101	NT 701
							 ALL-NEW	 ALL-NEW
315/70R22.5	215/75R17.5 245/70R19.5 285/70R19.5 275/70R22.5 295/80R22.5 315/60R22.5 315/80R22.5	225/75R17.5 235/75R17.5 245/70R17.5 265/70R19.5 295/75R22.5 295/80R22.5 315/70R22.5	295/80R22.5 315/70R22.5	12.00R20 12.00R24	385/65R22.5	235/75R17.5 265/70R19.5 385/55R22.5 385/65R22.5	245/70R17.5 385/65R22.5	385/65R22.5
M+S	M+S	M+S	M+S 3PMSF	M+S		M+S		M+S

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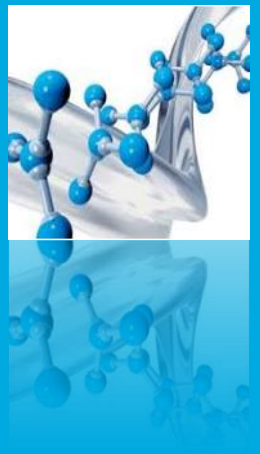
KAMA all steel tire specific design features

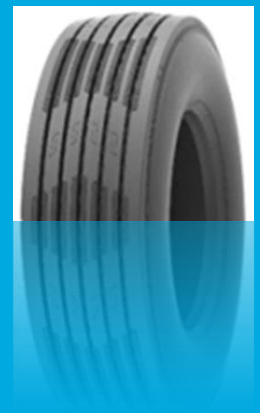
Specific belt design ensures casing stiffness and reduces rolling resistance.

Special innerliner composition provides stable inflation pressure, which in turn leads to even tread wear and fuel economy as a result of the reduced rolling resistance.



Steel cord additional layer in bead area improves the load bearing capacity and prevents from rubber overheating at maximum load.

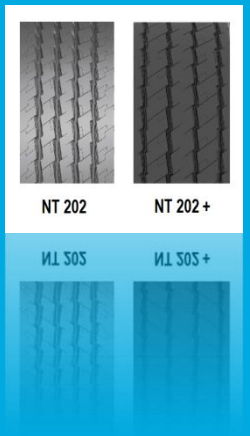
Self-cleaning treads for protection against premature wear and failure while driving on bad roads.



Strong performances of new tire life up to 250-300 thousand kilometres in the first operating cycle due to efficient tread pattern and depth.

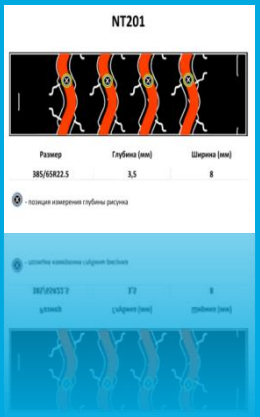
Retreadable tire casing suitable for further operation using new tread recapping technique, provided with casings collecting system and KAMARETREAD in-house production.

KAMA all steel tire specific design features

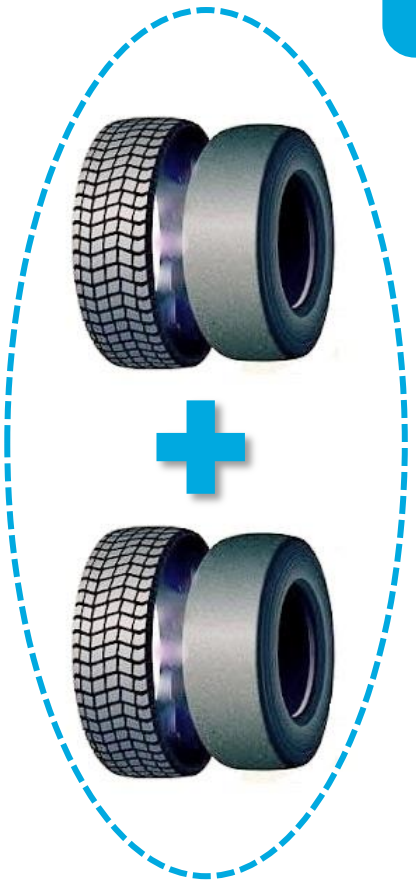


Single tire model tread pattern adaptation in different sizes to the operating conditions.

Regroovable tread, provided with the recommended regrooving scheme of the manufacturer for tire mileage increase.



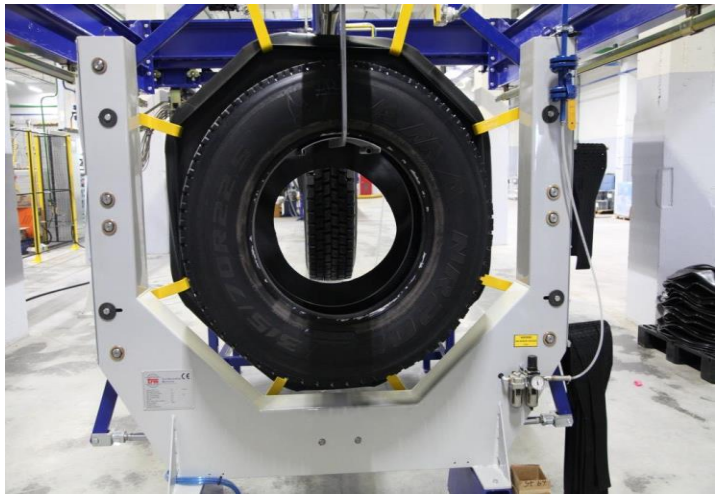
All KAMA all steel tire models casings have potential for cold and hot retreading by new tread recapping technique suitable for recommissioning.



In order to reduce KAMA all steel tires operating costs the casings are retreadable up to several times with further tread grooving.

It is recommended to perform retreading first, and once the retreaded tire has been in service further groove the tread in order to obtain extra mileage. In case of grooving up to retreading the casing suitability for retreading is reduced.

KaMaRetread, OOO (LLC) all steel tire retreading plant is a subsidiary of Trading House Kama, OOO (LLC) and MARANGONI (Italy) established in 2015. The designed capacity of the Plant is up to 36 thousand pieces of retreaded tires per year.



- *KaMaRetread, OOO (LLC) is the final phase of all steel KAMA tires production development program and service enhancement. It is one of the largest truck tire retreading plant in Russia by cold retreading technique.*
- *The plant is equipped with the state-of-the-art machinery of European manufacturers. Only high-quality tread strips and materials are used in production.*
- *The manufacturing technology has 4 stages of incoming quality control – during inspection of incoming all steel tire casings and product quality control on the output (QCD).*
- *Product range includes 26 commodity items, 11 sizes of tires with bead seat diameter from 22.5 to 24 inches.*
- *The quality warranty for retreading and repair works is 1 year.*

KAMARETREAD
Flow chart of retreading process

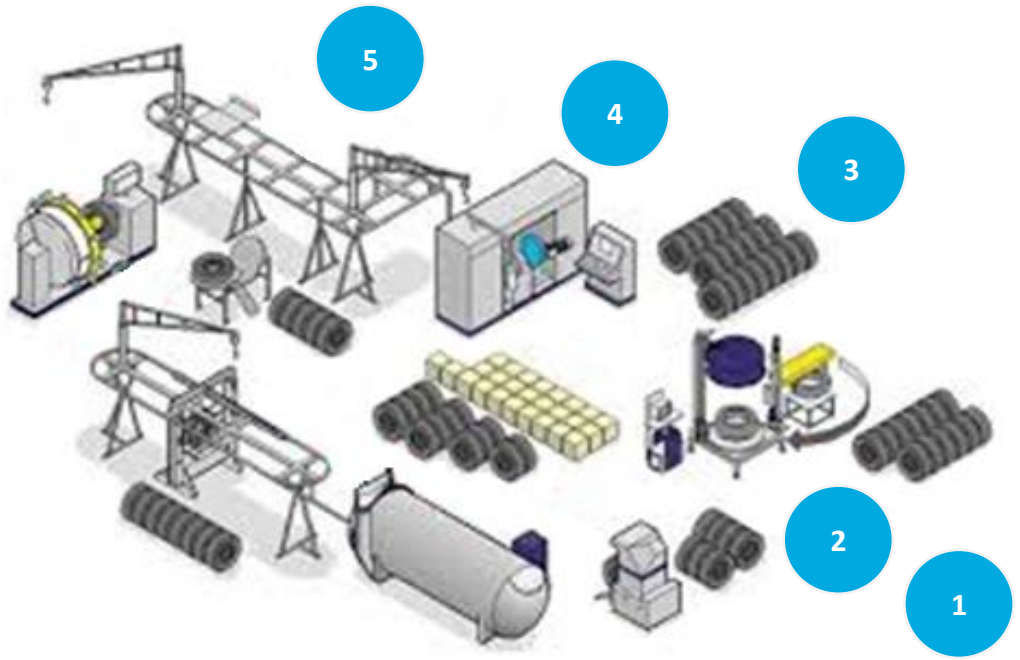
1) Casing visual inspection for external damages

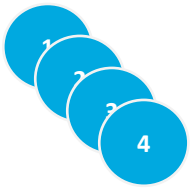
2) Casing on-machine pressure test for sidewall bulges and blisters

3) Casing shearography testing for microbubbles within the rubber layers

4) Old tread removal on a buffing machine

5) Casing skiving and repair after buffing





– Quality control stages of incoming casings

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KAMARETREAD
Flow chart of retreading process

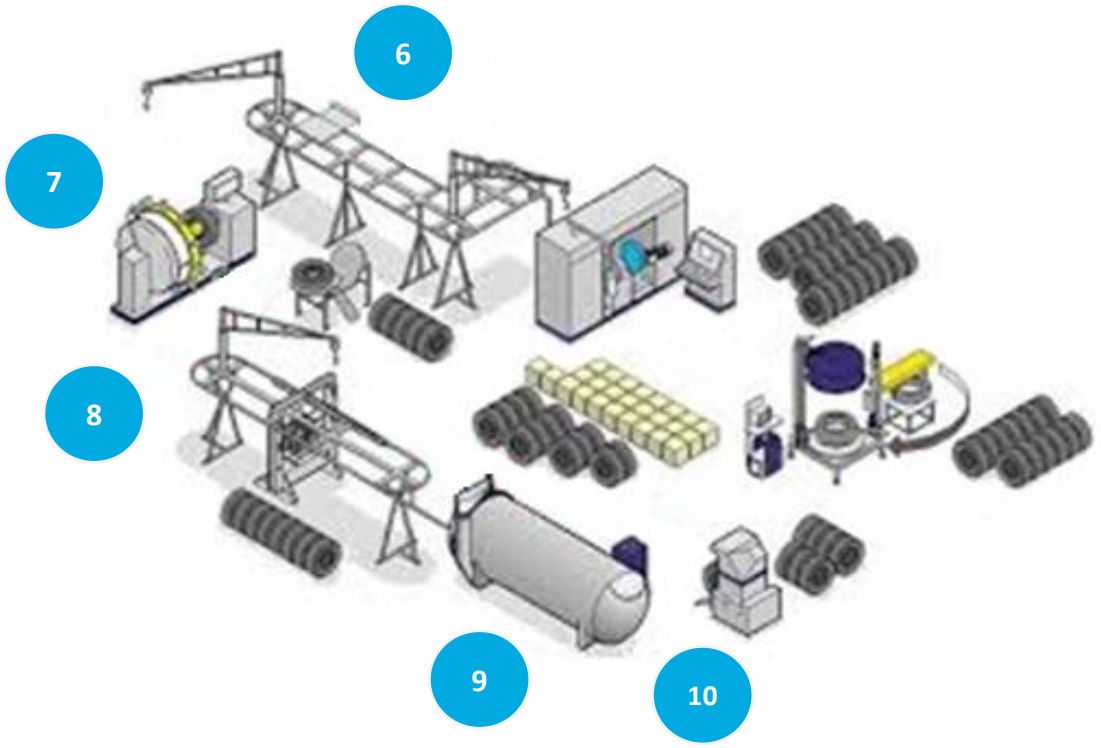
6) Cementing and cushion gum application

7) New tread automatic application with laser adjustment

8) Intermediate product embedding in an envelope for vacuumizing

9) Intermediate product curing in the autoclave at a temperature of 117^{0}C within 3 hours

10) Finished retreaded tires



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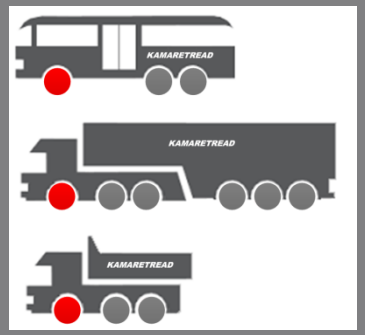
Vehicle axle application	Highway tires	Regional and local road tires	In-town tires	Winter tires	Mixed use tires
Driving	U729 UD2 DA4S		DA4S BTS	MS817 MS2	UDY3L UDYL
Trailer	ZA65S				

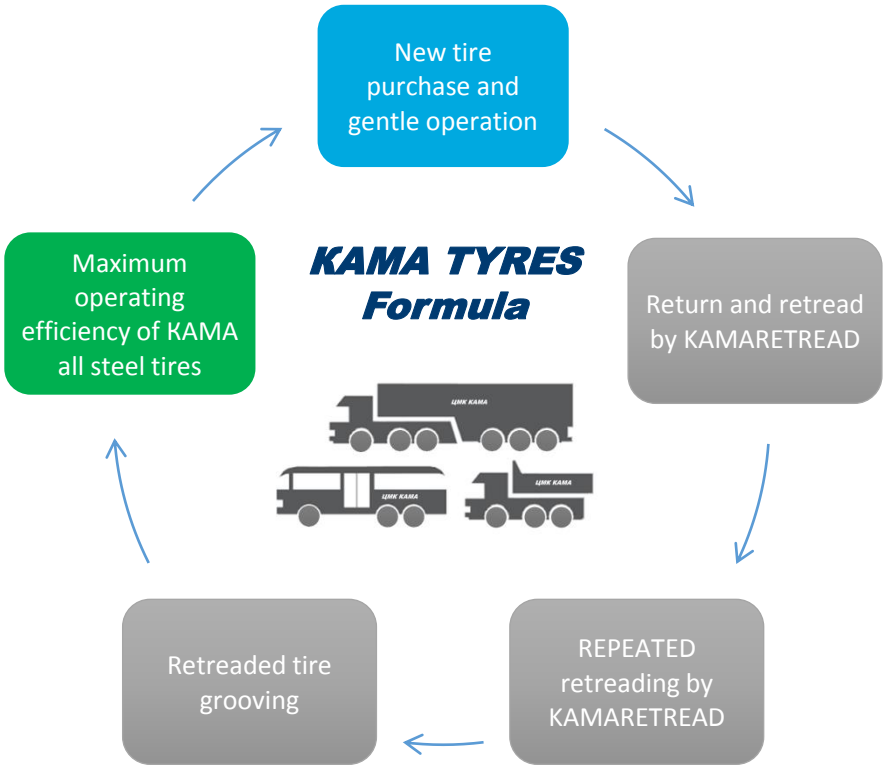


In accordance with the technical regulations of the Customs Union TP TC 018/2011 on the «Safety of wheeled vehicles» tires retreaded by recapping technique are not permitted to be fitted on the steering axle of a vehicle!!!

Driving axle tires

U729	UD2	DA4S	BTS
			
295/75 R22.5 295/80 R22.5 315/60 R22.5 315/70 R22.5 315/80 R22.5	295/75 R22.5 295/80 R22.5 315/60 R22.5 315/70 R22.5 315/80 R22.5	275/70 R22.5 295/80 R22.5	275/70 R22.5 295/80 R22.5
M+S	M+S	M+S	M+S

Driving axle tires (winter)	Mixed use tires		Trailer tires
MS817	**UDY3L**	**UDYL**	**ZA65S**
			
295/75 R22.5 295/80 R22.5 315/60 R22.5 315/70 R22.5 315/80 R22.5	315/80 R22.5	11 R22.5 12.00 R20 12.00 R24	385/65 R22.5
M+S	**M+S**	**M+S**	**M+S**



KAMA all steel tire cost calculation per 1 km

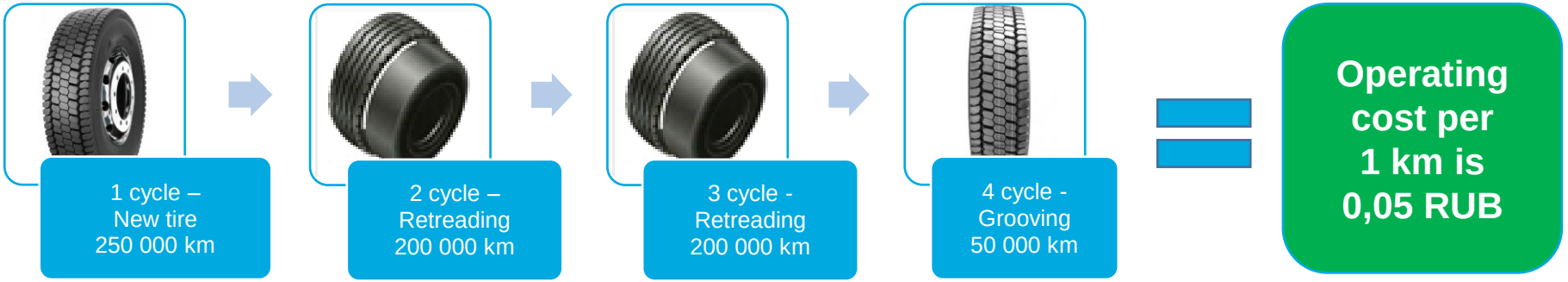
1. Option: Retreading twice + Grooving

Life cycle:	Cost, RUB	Approximate mileage, km
New tire*	18 000	250 000
1 Retreading	9 500	200 000
2 Retreading	9 500	200 000
Grooving	800	50 000
Total	37 800	700 000
Operating cost per 1 km, RUB		0,05

2 Option: Retreading once + Grooving

Life cycle:	Cost, RUB	Approximate mileage, km
New tire*	18 000	250 000
1 Retreading	9 500	200 000
Grooving	800	50 000
Total	28 300	500 000
Operating cost per 1 km, RUB		0,06

**The calculation is made using 315/70R22,5 KAMA NR202 driving axle tire as an example*



Calculation of the amount of benefit of KAMA all steel tires gentle operation based on small motor transport enterprise.

Vehicle fleet – 3 units of equipment.
Fleet composition:

Bus – 1 pc.

Truck – 1 pc.

Tractor lorry– 1 pc.

Note: 28 pieces of all steel tires are being operated on wheels at the enterprise. For instance, on the assumption that 10% of them are preserved for casings, i.e. 3 pc., only 25 new tires will be required to buy during next replacement; 3 of them can be retreaded or returned (sold) to the manufacturer and thus reduce costs for new set of tires for a vehicle fleet.

Table 1. Amount of preserved casings and demand for new set of tires.

Vehicle type and KAMA all steel tire functional dimension	The number of vehicles in a fleet, pc.	The number of tires on vehicle axles, pc.	Total prospective casings, pc.	The portion of serviceable casings, pc.					
				5%	*10%*	*20%*	*30%*	*40%*	*50%*
Bus (275/70R22,5)	1	6	6	0	1	1	2	2	3
Truck (315/80R22,5)	1	10	10	1	1	2	3	4	5
Tractor lorry (315/70R22,5; 385/65R22,5)	1	12	12	1	1	2	4	5	6
Total, pc.	*3*	*28*	*28*						
Serviceable casings suitable for retreading, pc.				*2*	*3*	*5*	*9*	*11*	*14*
Tires that need to be replaced with the new ones, pc.				*26*	*25*	*23*	*19*	*17*	*14*
Total amount of tires for completing of a vehicle fleet, pc.				*28*	*28*	*28*	*28*	*28*	*28*

Table 2. Cost parameters.

Vehicle type and all steel tire size	Average retail price of a new tire, RUB*	Total purchase cost of set of tires, RUB	The price of retreading service per casing, RUB*	Selling price per casing, RUB
Bus (275/70R22,5)	13 000	78 000	7 460	800
Truck (315/80R22,5)	18 500	185 000	9 410	1 200
Tractor lorry (315/70R22,5; 385/65R22,5)	17 500	210 000	9 410	1 500
Total amount of costs of the enterprise	-	*473 000*	-	-
Averaged difference from the new tire price, %			*54%*	*7%*

* *KAMA all steel tire approximate average retail price for driving axle on the Russian market*

Sale (return) of retreadable casings to the manufacturer will provide enterprise a difference up to 7% of the new tires purchase cost.

The price of retreading service on average amounts to only 55% of the new tire price, i.e. the enterprise costs for retreading of casings will be 46% less rather than buying new tires.

Table 3. Economic benefit of single retreading by KaMaRetread, OOO (LLC)

Vehicle type and all steel truck tires size	Total purchase cost of set of tires, RUB	Total enterprise savings upon retreading of a certain amount of casings, RUB					
		5%	*10%*	*20%*	*30%*	*40%*	*50%*
Bus (275/70R22,5)	78 000	0	5 540	5 540	11 080	11 080	16 620
Truck (315/80R22,5)	185 000	9 090	9 090	18 180	27 270	36 360	45 450
Tractor lorry (315/70R22,5; 385/65R22,5)	210 000	8 090	8 090	16 180	32 360	40 450	48 540
Total amount, RUB	*473 000*	*17 180*	*22 720*	*39 900*	*70 710*	*87 890*	*110 610*
Savings from total purchasing costs of a new tire lot upon single retreading of serviceable casings, %		*4%*	*5%*	*8%*	*15%*	*19%*	*23%*

In case of retreading half (50%) of its worn tires (casings) the enterprise savings on vehicle fleet completing with the new tires will amount to 23% of new tires purchasing costs or 110 610 RUB.

Table 4. Economic benefit upon return (sale) of casings to the manufacturer.

Vehicle type and all steel tire size	Total purchase cost of set of tires, RUB	Total savings upon preservation of a certain amount of casings, RUB					
		5%	*10%*	*20%*	*30%*	*40%*	*50%*
Bus (275/70R22,5)	78 000	0	800	800	1 600	1 600	2 400
Truck (315/80R22,5)	185 000	1 200	1 200	2 400	3 600	4 800	6 000
Tractor lorry (315/70R22,5; 385/65R22,5)	210 000	1 500	1 500	3 000	6 000	7 500	9 000
Total amount, RUB	*473 000*	*2 700*	*3 500*	*6 200*	*11 200*	*13 900*	*17 400*
Savings from total purchasing costs of a new tire lot upon return to the manufacturer will amount to, %		*1%*	*1%*	*1%*	*2%*	*3%*	*4%*

In this case the return (sale) of the half (50%) of its worn tires to the manufacturer on casings will bring enterprise an income of 17 400 RUB or some 4% of the cost of the vehicle fleet completing with the new tires.

AUTOMOBILE PLANTS

KAMAZ

НЕФАЗ

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VEHICLE FLEETS

SELTA, OOO (LLC)

KAMA-LOGISTIC TRANS, OOO (LLC)

MOSGORTRANS, GUP (SUE)

DELCO, OOO (LLC)

TECHNO-TRANS, OOO (LLC), Nizhnekamsk, cargo transportation.
Vehicle: Scania G380 truck tractor
Operating tires: KAMARETREAD U729 315/70R22,5 (KAMA all steel tire casing)
Actual mileage at the time of recall: 116 000 km, predicted life – 220 000 km.
Remaining tread: 10 mm, at rated – 19 mm.




Nizhnekamsk Public Transport Enterprise-1, AO (JSC), Nizhnekamsk, passenger transportation.
Vehicle: LiAZ 525625 bus
Operating tires: KAMARETREAD BTS 275/70R22,5 (KAMA all steel tire casing)
Actual mileage at the time of recall: 56 000 km, predicted life – 150 000 km.
Remaining tread: 13,2 mm, at rated – 21 mm.



AVTOKOMBINAT, TOO (LLP), Uralsk, Kazakhstan, cargo transportation.
Vehicle: DAF FX 105.460 truck tractor
Operating tires: KAMARETREAD U729 315/70R22,5 (KAMA all steel tire casing)
Actual mileage at the time of recall: 190 000 km (overall mileage).
Remaining tread: 0 mm, at rated – 19 mm.



KAMA TRANS AVTO, OOO (LLC), Naberezhnye Chelny, cargo transportation.
Vehicle: KamAZ 5490 truck tractor
Operating tires: KAMARETREAD U729 315/70R22,5 (KAMA all steel tire casings, import)
Actual mileage at the time of recall: 40 000 km, predicted life – 250 000 km.
Remaining tread: 15 mm, at rated – 19 mm.



THANK YOU FOR YOUR ATTENTION!

Trading House "Kama", OOO (LLC) All Steel Tires Marketing Department
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