DOUBLE SAFE


**JIANGSU DOUBLE SAFE TIRE CO.,LTD**

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# Premium Precured Treads

**JIANGSU DOUBLE SAFE TIRE CO.,LTD**

DOUBLE SAFE

## Advanced Equipment



## *Quality is the efficiency and life of enterprise*

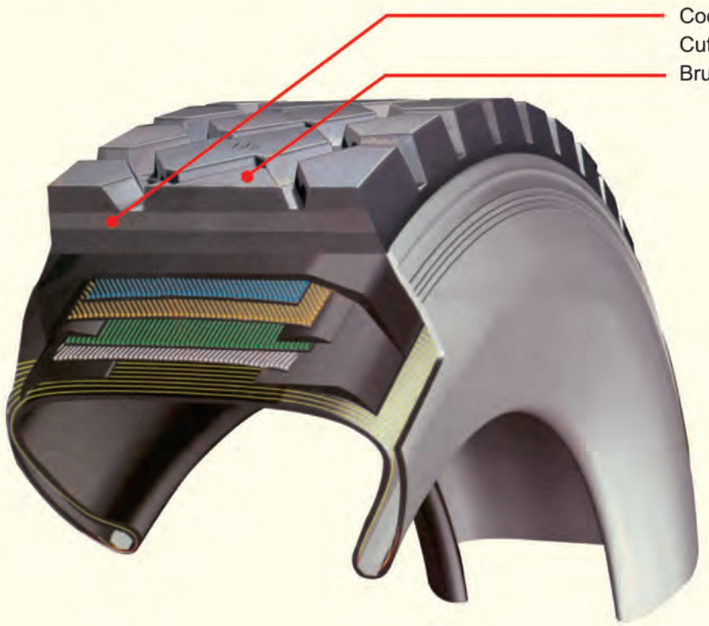
–Quality is the sign of corporate reputation and the arm to exploit the market.

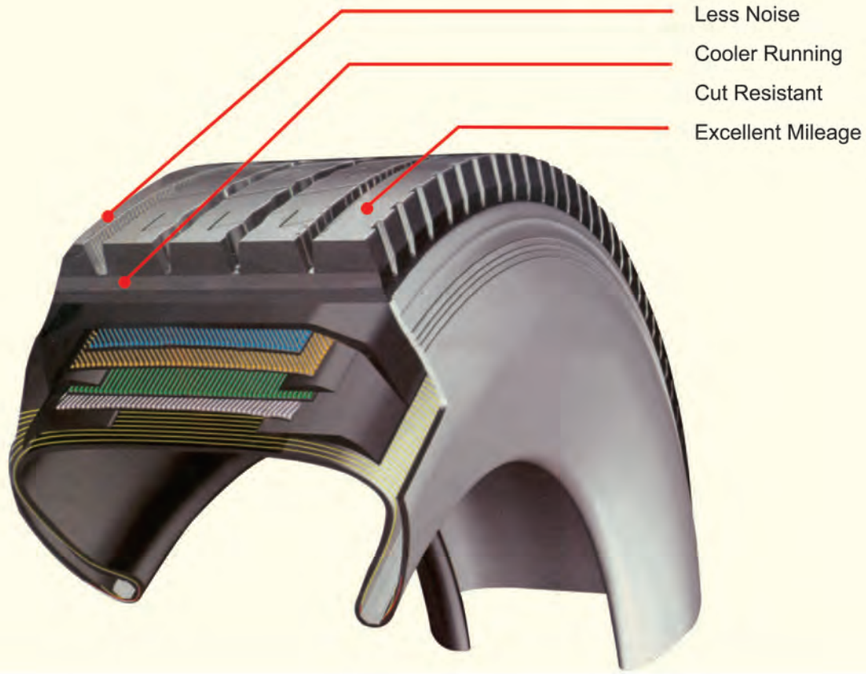
–Quality is the guarantee for the survival and development. No quality, no benefit.

–All activities develop around quality and exploit the way for quality.

## Tread structure

We deeply know that improvement of technical equipment is the guarantee for product quality steady and technology innovation. Thus, we constantly introduce a number of advanced production equipment, comprehensively serving our customers in recent years.



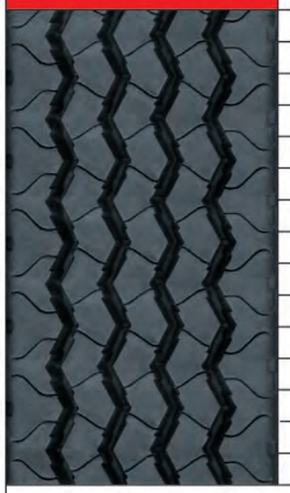




### DSR601

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 180 | 14 | 2.79 |
| 194 | 14.5 | 3.28 |
| 210 | 14.5 | 3.54 |
| 215 | 15 | 3.62 |
| 220 | 15 | 3.69 |
| 230 | 15 | 3.85 |
| 240 | 15.5 | 4.05 |
| 250 | 15.5 | 4.24 |

Features:
- Longitudinal ribs with closed shoulders
- For drive axle of city buses and trucks
- For trailer, semi–trailer and trailing axles
- For all wheel positions of construction vehicles
- All–round performance
- Good transmission of traction forces on paved roads and off–road
- For short and long–range use
- Good self–cleaning due to open tread design
- High mileage
- Directionally stable
- Suitable for use on low–noise vehicles

### DSR602



| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 150 | 11 | 1.97 |
| 160 | 12.5 | 2.09 |
| 170 | 12.5 | 2.47 |
| 180 | 13.5 | 2.67 |
| 188 | 13.5 | 2.74 |
| 194 | 14 | 2.93 |
| 200 | 14 | 3.13 |
| 205 | 14.5 | 3.21 |
| 210 | 14 | 3.28 |
| 215 | 14.5 | 3.33 |
| 220 | 14.5 | 3.41 |
| 225 | 15 | 3.67 |
| 230 | 15 | 3.8 |
| 240 | 15 | 3.86 |
| 250 | 15 | 4.15 |

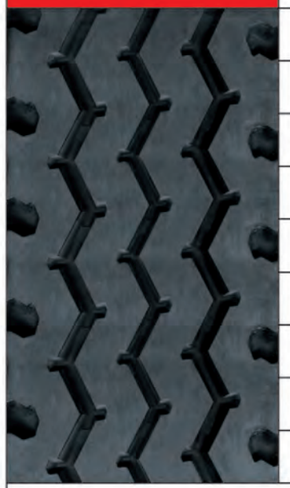
Features:
- Ribbed tread with continuous rounded shoulders
- For all wheel positions of touring coaches, city and articulated buses, trucks, light trucks, vans and minibuses
- For trailer, semi–trailer and trailing axles
- Smooth running and high mileage

### DSR603

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 14.5 | 3.94 |
| 225 | 15 | 4.13 |
| 230 | 15 | 4.26 |
| 240 | 15.5 | 4.46 |

Features:
- Longitudinal block–type tread with closes shoulders
- For drive axle of trucks
- For short–range use, especially on construction sites
- Directionally stable due to closed shoulders
- Very good self–cleaning as a result of distinct conical profile blocks
- Good transmission of traction forces due to solid blocks in centre of tread

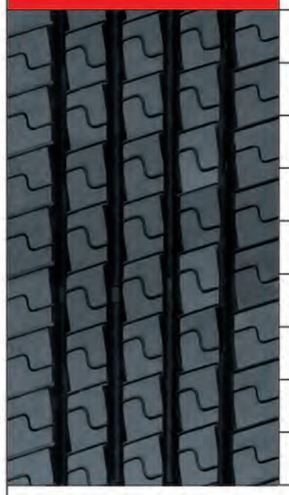
### DSR604



| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 195 | 14 | 3.02 |
| 200 | 14.5 | 3.12 |
| 210 | 14.5 | 3.33 |
| 215 | 14.5 | 3.53 |
| 220 | 14.5 | 3.49 |
| 225 | 15.5 | 3.96 |
| 230 | 15.5 | 3.75 |
| 240 | 15.5 | 3.89 |

Features:
- Longitudinal ribs with closed shoulders
- For drive axle of city buses and trucks
- For trailer, semi–trailer and trailing axles
- For all wheel positions of construction vehicles
- All–round performance
- Good transmission of traction forces on paved roads and off–road
- For short and long–range use
- Good self–cleaning due to open tread design
- High mileage
- Directionally stable
- Suitable for use on low–noise vehicles

## DSR605

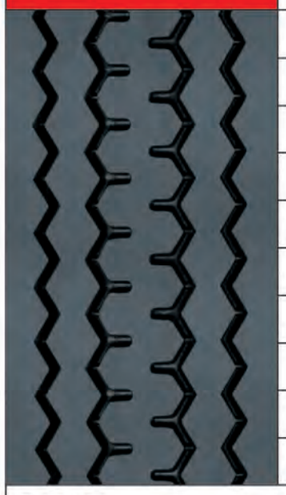


| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 210 | 14.5 | 3.56 |
| 220 | 14.5 | 3.71 |
| 230 | 15 | 3.78 |
| 240 | 15.5 | 3.98 |
| | | |
| | | |
| | | |
| | | |
| | | |

Features:

- Longitudinal rib design with closed shoulders
- For trailer, semi–trailer and trailing axles and for all wheel positions of touring coaches, city and articulated buses, trucks, light trucks, vans and mini–buses
- For short and long–range use
- Good traction on wet and dry roads due ton distinct sipes
- Grooves designed to resist stone penetration and casing damage

## DSR606



| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 130 | 11 | 1.76 |
| 135 | 11 | 1.81 |
| 142 | 11.5 | 2.04 |
| 150 | 11.5 | 2.2 |
| 160 | 12.5 | 2.52 |
| 170 | 13 | 2.82 |
| 180 | 14 | 2.99 |
| 188 | 14 | 2.93 |
| 194 | 14 | 3.04 |
| 203 | 14 | 3.62 |

Features:

- Ribbed tread with continuous shoulders
- For trailer, semi–trailer and trailing axles and for all wheel positions of touring coaches, city and articulated buses, trucks, light trucks, vans and mini–buses
- For short and long–range use
- Light tread
- Smooth running and high mileage

## DSR609

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 180 | 14 | 2.81 |
| 194 | 15 | 3.23 |
| 203 | 15 | 3.42 |
| 215 | 15 | 3.64 |
| 220 | 14.5 | 3.71 |
| 230 | 15.5 | 3.81 |
| 240 | 15.5 | 4.1 |
| | | |
| | | |

Features:

- Heavy–duty lateral block pattern; open shoulders
- For drive axle of construction and special purpose vehicles
- For short and long–range operations
- Suitable for all–weather use
- Good transmission of traction forces on wet and dry road, particularly on unpaved roads
- Good self–cleaning as a result of open shoulder tread
- Good mileage

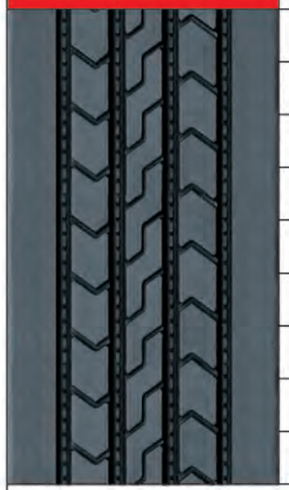
## DSR610

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 21 | 4.68 |
| 230 | 21 | 4.93 |
| 240 | 21 | 5.24 |
| | | |
| | | |
| | | |
| | | |
| | | |

Features:

- Heavy–duty lateral block pattern; open shoulders
- For drive axle of construction and special purpose vehicles
- For short and long–range operations
- Suitable for all–weather use
- Good transmission of traction forces on wet and dry road, particularly on unpaved roads
- Good self–cleaning as a result of open shoulder tread
- Good mileage

## DSR607



| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 170 | 12.5 | 2.29 |
| 180 | 12.5 | 2.49 |
| 194 | 12.5 | 2.89 |
| 200 | 13 | 3.05 |
| 210 | 13 | 3.21 |
| 220 | 13.5 | 3.4 |
| 230 | 13.5 | 3.66 |
| 240 | 15 | 3.53 |
| 250 | 15 | 4.47 |

Features:

- Longitudinal rib design with closed shoulders
- For trailer, semi–trailer and trailing axles and for all wheel trucks short–long range passager buses minibuses
- Grooves designed to resist stone penetration and casing damage
- Directionally stable
- High mileage

## DSR608

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 200 | 14.5 | 3.4 |
| 210 | 14.5 | 3.66 |
| 220 | 14.5 | 3.61 |
| 230 | 14.5 | 3.71 |
| 240 | 15 | 4.17 |
| | | |
| | | |
| | | |
| | | |

Features:

- Longitudinal rib design with closed shoulders
- For trailer, semi–trailer and trailing axles and for all wheel positions of touring coaches, city and articulated buses, trucks, light trucks, vans and mini–buses
- For short and long–range use
- Good traction on wet and dry roads due ton distinct sipes
- Grooves designed to resist stone penetration and casing damage

## DSR611

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 130 | 11 | 1.73 |
| 140 | 12.5 | 2.05 |
| 150 | 12 | 2.22 |
| 160 | 13 | 2.5 |
| 168 | 14 | 2.58 |
| 180 | 14 | 2.8 |
| 194 | 15 | 3.29 |
| 203 | 15 | 3.63 |
| 218 | 15 | 3.74 |
| 230 | 15 | 3.86 |

Features:

- Robust tread with very large contact area
- For drive axle of construction and special purpose vehicles in heavy–duty use
- Also for fork–lift and industrial vehicles
- Good transmission of traction forces, particularly on unpaved surfaces
- Very good self–cleaning due to open shoulder design
- Resistant to tears and cuts due to specially formulated compound
- Very well suited for high propulsion power
- Good running properties due to open tread design

## DSR612

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 180 | 14 | 2.84 |
| 194 | 15 | 3.38 |
| 210 | 15 | 3.48 |
| 220 | 15 | 3.68 |
| 230 | 15 | 3.97 |
| 240 | 15 | 4.16 |
| 250 | 15 | 4.23 |
| 255 | 15 | 4.28 |
| | | |

Features:

- Heavy–duty lateral block pattern; open shoulders
- For drive axle of construction and special purpose vehicles
- For short and long–range operations
- Suitable for all–weather use
- Good transmission of traction forces on wet and dry road, particularly on unpaved roads
- Good self–cleaning as a result of open shoulder tread
- Good mileage

## DSR613

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 140 | 13 | 2.02 |
| 150 | 13 | 2.11 |
| 160 | 13 | 2.39 |
| 170 | 13 | 2.7 |
| 180 | 14.5 | 2.95 |
| 185 | 14.5 | 3.05 |
| 190 | 15 | 3.25 |
| 195 | 15 | 3.43 |
| 200 | 15 | 3.5 |
| 215 | 15.5 | 3.74 |
| 220 | 15.5 | 3.75 |
| 230 | 15.5 | 3.98 |
| 240 | 15.5 | 4.11 |
| 250 | 15.5 | 4.28 |

Features:
- Longitudinal ribs in the centre with sold blocks and rounded shoulders
- For drive axle of city buses, trucks and construction vehicles
- For short and long–range use, mainly on paved roads
- All–season tread
- Good transmission of traction forces on wet and dry roads
- Good self–cleaning due to rounded shoulders and shallow centre groove
- Good straight–running stability
- High mileage

## DSR614

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 210 | 14 | 3.48 |
| 220 | 15 | 3.8 |
| 230 | 15 | 4 |
| 240 | 15 | 4.18 |
| 250 | 15 | 4.25 |

Features:
- Transverse, solid block tread
- For drive axle of construction and special purpose vehicles
- Good transmission of traction forces, particularly on unpaved surfaces
- High mileage

## DSR617

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 16 | 3.81 |
| 230 | 17 | 4.31 |
| 240 | 17 | 4.43 |
| 250 | 17 | 4.75 |
| 260 | 17 | 4.76 |
| 270 | 17 | 4.96 |

Features:
- Transverse, solid block tread
- For drive axle of construction and special purpose vehicles
- Good transmission of traction forces, particularly on unpaved surfaces
- Very good self–cleaning as a result of open tread design
- Resistant to cuts and tears due to specially formulated compound
- High mileage

## DSR619

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 14 | 3.72 |
| 230 | 14 | 3.88 |
| 250 | 14 | 4.23 |

Features:
- Transverse, solid block tread
- For drive axle of construction and special purpose vehicles
- Good transmission of traction forces, particularly on unpaved surfaces
- Very good self–cleaning as a result of open tread design
- Resistant to cuts and tears due to specially formulated compound
- High mileage

## DSR615

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 203 | 14.5 | 3.5 |
| 210 | 14.5 | 3.62 |
| 220 | 14.5 | 3.75 |
| 230 | 14.5 | 3.94 |
| 240 | 14.5 | 4.12 |
| 250 | 14.5 | 4.21 |

Features:
- Longitudinal ribs in the centre with sold blocks and rounded shoulders
- For drive axle of city buses, trucks and construction vehicles
- For short and long–range use, mainly on paved roads
- All–season tread
- Good transmission of traction forces on wet and dry roads
- Good self–cleaning due to rounded shoulders and shallow centre groove
- Good straight–running stability
- High mileage

## DSR616

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 16 | 4.09 |
| 230 | 16 | 4.23 |
| 240 | 16 | 4.4 |

Features:
- Heavy–duty lateral block pattern; open shoulders
- For drive axle of construction and special purpose vehicles
- For short and long–range operations
- Suitable for all–weather use
- Good transmission of traction forces on wet and dry road, particularly on unpaved roads
- Good self–cleaning as a result of open shoulder tread
- Good mileage

## DSR618

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 15 | 3.77 |
| 230 | 15.5 | 3.94 |
| 240 | 15.5 | 4.11 |

Features:
- For drive axle of trucks
- Good self–cleaning as a result of open tread
- Exceptional grip improve braking distance
- Well optimized and rigid transverse blocks improves handling & cornering
- Transverse grooves with asymmetrical slope block designed to prevent stone retention

## DSR620

| WIDTH (MM) | DEPHTH (MM) | KG/M |
|---|---|---|
| 220 | 22 | 4.7 |
| 230 | 22 | 4.94 |
| 240 | 22 | 5.11 |

Features:
- Solid, cross–grove, block–type tread
- For drive axle of construction and special purpose vehicles in heavy–duty use
- Specially adapted compound helps prevent cuts and damage to casing
- Good transmission of traction forces, particularly on unpaved surfaces
- Very good self–cleaning due to open shoulder design
- Superbly suited for high propulsion power
- Good running properties due to extra tread depth


## *Double Safe cushion gum*

Double Safe cushion gum is applied to low temperature tire retreading, playing the role to tire tread and carcass closely bonded.

Fast vulcanized cushion gum rubber used at temperature of 99℃–120℃, which can shorten your vulcanized time but also reduce 30% energy consumption.

According to World Renewable Organization, the cushion gum of Double Safe rubber doesn't include health hazards of pine tar, cushion gum of each roll weighing 10kg.

## *Double Safe Extruder gum*

Before using an cushion gum and tread adhesive, Double Safe rubber repaire glue use in filling up and making even the repaired hole.

This extruder gume can be used at the vulcanized temperature range of 99℃–120℃, each box weighing 10kg.

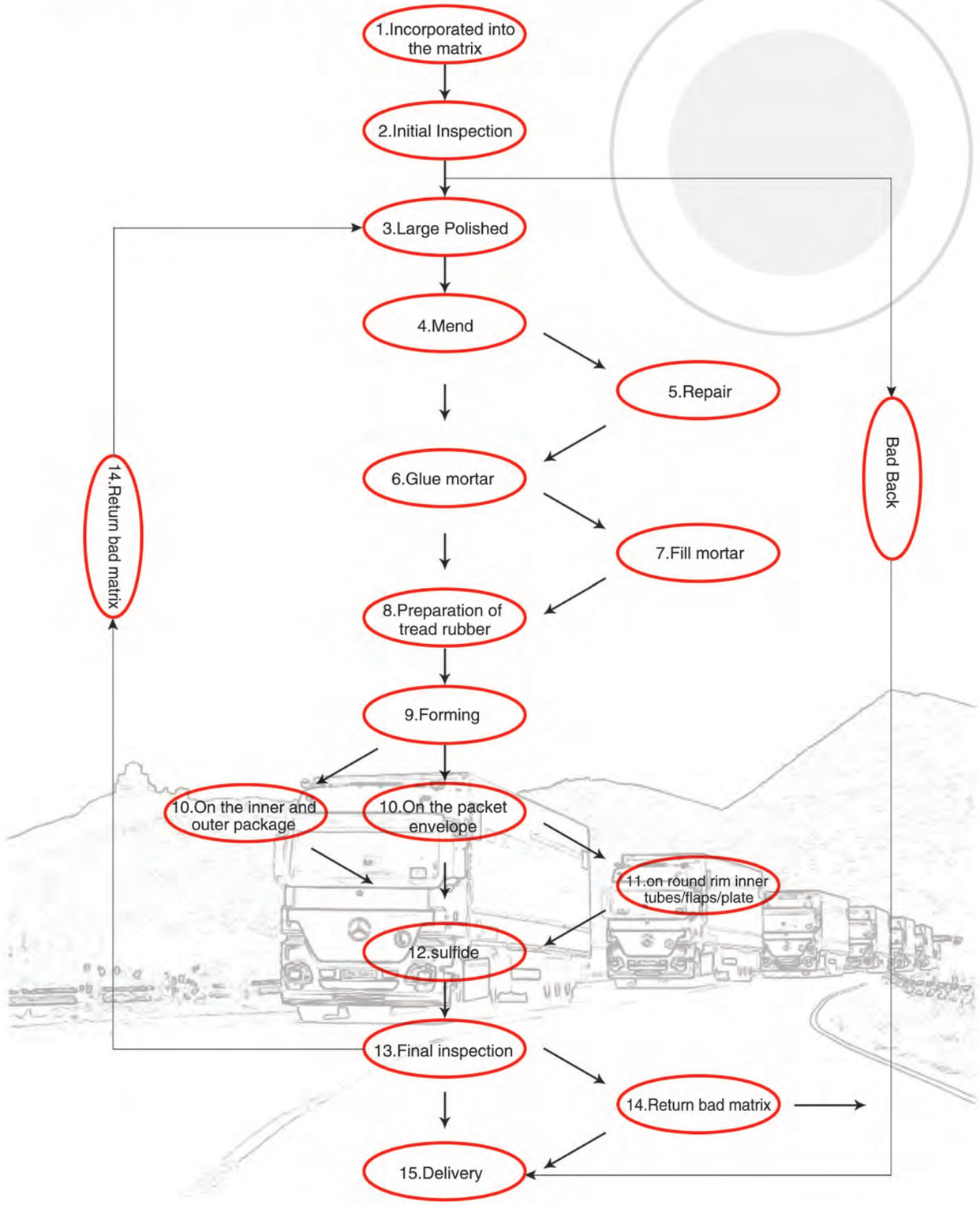
Double Safe cushion gum used at low temperature tire retreading plays the role of bonding tread glue tire closely with matrix.

## *Mortar preparation (recommended method):*

1. The mortar mixture ratio Gasoline (120#): rubber (intermediate rubber) =11.5:1 Product ratio 3kg (intermediate rubber) rubber plus 34.5kg gasoline.
2. Cut mortar rubber(intermediate rubber) into two pieces with 30–50cm, and put into mixer
3. Fist, add ½ required amount gasoline, and soak 4–6 hours
4. Mix for more than 4 hours and add the remaining ½ gasoline, mixing well.
5. Use after filtration with the use of 40 meshes strainer.

| Double Safe envelope size | | Matching tire size (recommended) | | | |
|---|---|---|---|---|---|
| Code | Dimensions | Conventional Size | | Metric Size | |
| DSR712 | 1270 × 863 | 1200R20 | 1300R20 | 365/80R20 | 385/65R22.5 |
| | | 15R22.5 | 1200R24 | 315/75R24.5 | 445/65R22.5 |
| | | 12.5R22.5 | 12R24.5 | 365/80R22.5 | 445/50R22.5 |
| | | 13R22.5 | 1100R24 | 295/80R24.5 | 425/65R22.5 |
| DSR711 | 1205 × 760 | 11R24.5 | 1100R22 | 305/75R24.5 | 275/80R24.5 |
| | | 12R22.5 | 1100R20 | 305/70R24.5 | 315/80R22.5 |
| | | 1200R22 | 1200R20 | 285/75R24.5 | 305/85R22.5 |
| | | 11R22.5 | | 315/75R22.5 | |
| | | 1100R20 | | 305/75R22.5 | |
| DSR710 | 1066 × 711 | 1000R20 | 12/70R22.5 | 315/70R22.5 | 275/80R22.5 |
| | | 10R19.5 | 13/80R20 | 305/70R22.5 | 275/70R22.5 |
| | | 11R17.5 | 12/80R20 | 295/80R22.5 | 425/65R19.5 |
| | | 10R22.5 | | 305/60R22.5 | |
| | | 1000R22 | | 305/70R19.5 | |
| | | 900R20 | | | |
| DSR709 | 1016 × 635 | 825R20 | 9R22.5 | 255/70R22.5 | |
| | | 750R20 | 8R22.5 | 245/75R22.5 | 305/60R22.5 |
| | | 700R20 | 8R19.5 | 235/80R22.5 | |
| DSR708 | 928 × 635 | 8.25R16 | 10R16.5 | 265/70R19.5 | |
| | | 825R15 | 12R16.5 | 245/70R19.5 | |
| | | 10R15 | | | |
| DSR707 | 815 × 510 | 8.5R17.5 | 9.5R17.5 | 235/70R19.5 | 265/75R16 |
| | | 750R16 | 750R15 | 225/75R16 | 245/75R16 |
| | | 8R17.5 | 700R16 | 215/75R16 | 245/70R16 |
| | | | 700R15 | 215/75R17.5 | 225/70R16.5 |
| | | | 28 × 9R15 | 250R15 | 205/75R16 |
| | | | | 235/75R15 | 205/75R15 |
| DSR706 | 760 × 432 | 650R16 | 700R12 | 175/75R16 | 195R14 |
| | | 600R16 | 27 × 10 × 12 | 185R15 | 205R14 |
| | | 7R17.5 | | 195R16 | 185R15 |

## Tire retreading process flow diagram




## Retread tires final inspection standards

1. After vulcanization, in a good light, tires, when they are still heat, carry out the visual inspection one by one.
2. Neat and uniform appearance, all patched area should be flat.
3. Both ends of the retreaded tire shoulder appearance do not allow filing printed existence.
4. Tread groove bottom does not allow not emerge file print.
5. According to the tires percussion to check for delamination, matrix and the rim can not have a bulge part. Any part of inside and outside retreaded tire must be bonded tightly without allowing Honeycomb sponge, void and delamination.
6. Any broken part required reinforcement have to be reinforced. No exception!
7. Any pad must be bonded tightly with matrix, allowing two points void in the diameter of 10mm, out of 75mm around the hole.
8. The degree of Patched pad bumping inside tires is less than 5mm.
9. Repaired pad without curling should be uniform and smooth soled after vulcanization. The surface inside and outside of repaired place should be smooth.
10. In splicing part of the tread rubber, cracks and flaws are prohibited.
11. The tread rubber shall be sulfide flat and coincides with the centerline of the tire.
12. Tread rubber and the matrix in commissure can not have a clear scar, cracks, curling.
13. The degree of out of round of truck tire is less than ± 5mm.
14. Tread repaired more than 100mm will be required to carve the same type of pattern.
15. Tire Bead diameter must maintain the original tire diameter, The repaired one has not allowed deformation.
16. Tread or sidewall of the mechanical injury(including stones injury)did not reveal out of the matrix line, which is no necessary to repair.
17. Using the special tire coating with paint.
18. The tires cooled at room temperature for 24 hours can be used.
19. Retreaded tires should not be installed on driven rrwheel of motor vehicle.

Retread tires final inspection standards

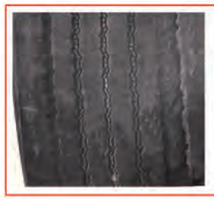
## In the following case of common tire damage:

1. Irregular Wear (one side of tire shoulder wear)
Cause: incorrect wheel alignment, resulting in one–side wear.
Low tire pressure of overloading
Irregular tire rotation

2. Irregular Wear (wear of diagonal or oblique)
Cause: tire pressure is low
There exists deviation in the rotating parts of the wheel during the process of installation
Example: improperly matching between axles and bearings
Incorrect wheel alignment

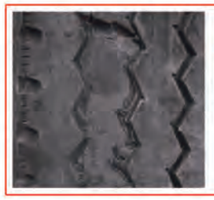
3. Irregular Wear (place by piece)
Cause: tire rotation imbalance.
Tire pressure is too low or too high.
Times installed deviation (axle skew).

4. Puncture Prick (tread part)
Cause: tires damaged by external pricks.
Rugged road conditions.

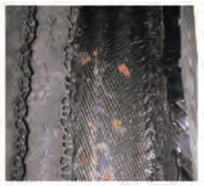


5. Tread Strip Damage
Cause: tires damaged for uneven road
Tire pressure is too high or overloaded.
In the case of high–speed cornering sharp things.

6. Pricked Rolling / Shock Burst
Reason: Rolling pricked by road debris.
Poor quality tires causing burst at high speeds
Tire pressure is too high, overloading.



7. Part of Tires Spalling
Cause: impacts of external shear stress.
such as: stone, glass and other sharp things.
Tire pressure is too high or overloading

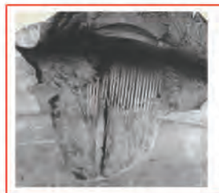


8. Heat separation
Cause: The tire pressure is low and overloading.
Continuous high–speed operation to increase the tire heat.
Tires properly.

9. Sidewall puncture prick
Cause: The external side pricking tire.
During tires assembly progress, rolling stone into it and punctured the tire sidewall.

10. Redial fracture
Cause: The existence of the has slow leak by small holes and tires continue long–term operation, the pressure decreased.
Low tire pressure.

11. Wire layer of matrix fracture
Reason: low tire pressure of overloading.
Pricked by the external–side damage.



12. Tire shoulder delamination
Reason: tire shear force by a large collision.
Tire pressure is too high, overloading.
Poor quality tires. After continuous high speed operation, the tire shoulder get high heat, small air bubbles diffusion delamination.

13. Rim damage
Cause: irregular rim (damage, rust and cracks, etc.) Rim size and tire or wheel rim in the form do not match.
Incorrect tire assembly and disassembly

14. Tire Bead Burst
Cause: rim size and wheel rim is not matching with tyre.
Irregular rim (damage, rust, cracks,etc.)
Tire inflation pressure is high, overloading

15.Bead cracks
Cause: The tire pressure is high, overloading.
Excessive brake, wheel rim heat conduction.
Improper assembly.

***Retreaded*** tires are safe and reliable

***Retreaded*** tires are a great way to save.

***Retreaded*** tires are recycled.

***Retreaded*** tires are a great opportunity for you to get a substantial profit.

## ***Tire Retreading*** the Next Sunrise Industry in China.

Logistics companies are now facing greater challenges than ever before. Many industries throughout the country for rising fuel prices, energy shortages and limited power formed a helpless way of life. causing a profound influence. But with bright future, for those team managers to improve profitability and reduce costs, there is a great solution under operation, a safer, more economical and more environmentally friendly alternative to expensive tires to the new tires, and retreaded tier mileage with absolutely comparable to new tires, while the price is much lower.

Retreaded tires usually cost only 40–60% of the cost of new tires, but they can steer in the National Road as at the same speed as the new car without any influence about safety and comfort. In fact, retreaded tires are widely used in aviation, city buses, adjustment buses, tankers, trucks, mining and earth–moving vehicles. Without any exception, all the world's airlines use retreaded tires and those users are aware that safety and reliability of retreaded tire is reliable.

Retreaded tires are also environmentally friendly and the tire is a petrochemical product. A new truck tire production to consumption of 80 liters of oil, most of the oil is used in recycled matrix during tire retreading process. Therefore, only 25 liters of oil can retread the same tire, saving 55 liters of oil, Each year a fleet of 100 tires can save 5,500 liters of oil per year, which substantially reduce the amount of wasted matrix and the environmental problem caused by stacking matrix.

In 2007, a variety of vehicles produced a total of 130 million replaced tires, which only 10 million of them were retreaded. The Retreaded tires and replaced tires ratio in developing countries is 10–15%. If China's consumption of replaced tires achieves the level of other developing countries, it means there are 10 million per year in additional demand for retreading so that we will save 10 million liters of oil only from the tire retreading.