

Specifications for Tire Retreading

North Carolina State Term Contract 060E January 9, 2009 – November 30, 2009

CASING AND TIRE IDENTIFICATION:

Each casing picked up by the contractor from the user's site shall be identified, marked, and continuously tracked through the retreading process in such a manner that the same casing, as a retreaded tire, shall be returned to that particular user, and identifiable by user as belonging to him and specifically correlated to the particular casing used for the retread. Therefore, upon delivery the retreaded tire shall bear, as either a temporary or permanent marking, at the bidder's option, the same unique tracking code or number which it was assigned by bidder upon pickup as a casing.

A copy of an itemized list showing all casings picked up at the user's site, each casing referenced in the same manner identified and marked by the contractor, shall be provided to the user BEFORE the casings are removed. The contractor shall retain a copy of same record, with signature and signature date by an authorized representative of the user at the pickup location. At the contract administrator's request, the contractor shall provide to the administrator a copy of any such list(s) requested, properly signed by the user's representative as specified above.

In addition, the contract administrator may request at any time during the contract a meeting in the offices of the Division of Purchase & Contract for the purpose of the contractor explaining the details of the tracking system, and to discuss any problems that may be occurring therewith. Casing tracking is important and may be closely monitored throughout the contract. Failure for contractor to perform satisfactorily in this respect may lead to cancellation of the contract per the attached Terms and Conditions.

If there is a shortage of casings in the delivered retreads, the contractor shall either (a) provide the user with replacement casings of value equal to the missing casing(s) at no charge, or (b) reimburse the user the full market value of the missing casing(s). Such full market value shall be determined by a publication of national or regional circulation and acceptance.

INFORMATION REQUIRED ON SIDEWALL:

In accordance with Federal Motor Vehicle Safety Standard (FMVSS) 49 CFR Part 574, information to be permanently molded or branded into or onto one sidewall shall consist of:

- (a) The retreader's assigned identification mark
- (b) Tire size
- (c) Tire type code, or brand-name-owner identification
- (d) Code for week and year of manufacture.
- (e) The DOT symbol with a following "R" (for retread), as required by FMVSS shall be located on the sidewall as specified in Figure 2 of Part 574.

All retreads produced under this contract, in addition to the above information required by FMVSS, shall also have molded or branded into the sidewall, in a location adjacent or near the above information:

- (f) The maximum cold inflation pressure (in PSI)
- (g) The load limit (lbs). The retreader shall not change any information on the casing sidewall concerning the stated load capacity of the tire.
- (h) In sizes that may be used in either the single or dual configuration, pressures and load limits for BOTH configurations shall be provided and properly identified.
- (i) The total number of times the tire has been retreaded. (Picked-up casings which have been previously retreaded should have such marking already on the sidewall.)

TIRE INSPECTION:

The contractor shall inspect the casing at his plant at time of receipt, then again during the retreading process, and finally after completion of the process. In accordance with North Carolina Senate Bill 1797, each casing shall receive a state-of-the-art inspection with the use of shearography, ultrasound, electrostatic discharge, high pressure testing, or other industry standard testing methodology.

If a casing or in-production retread is rejected by the contractor, such unsuitable casing or retread shall be returned to the user without charge, regardless of the amount of work that may have been performed on the casing/retread, and a written report citing the specific reason(s) for the rejection shall be submitted to the user.

If the State determines that the contractor is rejecting casings that are indeed suitable for retreading, the State at its sole option may cancel the contract with that contractor immediately.

FINAL INSPECTION:

The final inspection shall be in accordance with the provision for "Final Inspection" in "Industry Recommended Practices for Tire Retreading & Tire Repairing." Specifically, the final inspection will include at least a visual examination of the tire while mounted on a spreader under adequate lighting, and the inside and outside of the tire shall be checked. The visual inspection shall be in complete compliance with the final inspection requirements in the above publication.

In addition, due to safety considerations with respect to some of NCDOT's very heavy hauling loads (e.g. dump trucks hauling 15 cubic yards of aggregate), **FOR BEAD-TO-BEAD RETREADS ONLY**, the final inspection shall ALSO include the proper use of high-pressure testing (such as a Matussi machine).

WARRANTY:

All retread tires shall be warranted to be free from defects in workmanship and materials and to give satisfactory service under normal operating conditions for the life of the tread. Should the retread fail while in service and the cause is determined to be faulty workmanship and/or materials, the tire shall be returned to the contractor and be adjusted on the following scale:

Tread life Remaining	% of Credit to Agency
100-80%	100%
79-60%	75%
59-40%	50%
39-20%	25%
19-0%	0%

For retreads provided under this contract, IF THE FAILURE RATE EXCEEDS 1/2 of 1% (0.5%), the contract with that contractor for that type of retread may be immediately terminated and remedies sought in accordance with the attached General Contract Terms and Conditions.

A failure is defined as any event, EXCEPT for road hazards, normal wear and tear, improper inflation, wheel misalignment, vehicle damage, improper mounting by other than contractor, or damage caused by abuse, neglect, collision, vandalism, fire, or chemical corrosion, which results in the tire no longer able to perform in its intended and proper use. Failure rate is defined as the percentage of failed retreads of a particular type (bead-to-bead or pre-cure) which have been delivered by the contractor to a given user (either (a) NCDOT, or (b) the entire group of LEAs), up to that time, when compared against the total number of retreads delivered for that type of retread, by that contractor, to that user, up to that time. For example, if Contractor A has delivered 2000 pre-cure retreads under this contract to NCDOT through March 1, 2009, and on that date the 11th failure of Contractor A's pre-cure retreads delivered to NCDOT occurs, then Contractor A has exceeded the 0.5% failure rate allowance.

RETREAD RUBBER SPECIFICATIONS:

This specification is intended to describe the cured physical properties of a premium tread rubber to be used in the retreading of all tires provided under this contract. All rubber on such retreads shall meet the specifications in the table below.

At any time after bid opening through contract termination, and within ten (10) consecutive days of request, the State may require the contractor to certify on company letterhead stationery the actual values of the properties listed below for any requested retread(s) offered and supplied under the contract. Such information will be kept confidential by the State upon written request by the contractor. Furthermore, at any time while the retreads purchased under this contract are in use on the users' vehicles, the user may at its own expense have the tread rubber from any retread tire obtained under this contract analyzed by a lab designated by the State to confirm that the rubber complies with these specifications. In the event that the rubber is determined not to comply, contractor shall rectify the matter to the State's complete satisfaction and in a timely manner. Failure of the contractor to rectify the matter fully may cause immediate termination of the contract and remedies sought in accordance with the attached General Contract Terms and Conditions.

	Minimum	Maximum	Typical
Tensile Strength (PSI)	2350	2850	2400
Elongation (%)	450	600	480
Modulus @ 300%	1250	1750	1300
Hardness*	61	70	64
Specific Gravity	1.110	1.145	1.125
Hydrocarbons by Weight (%)	50	60	50
Polybutadine Content (%)	30	40	35
Acetone Extract (%)		22	
Carbon Black	N200 or better		

* Measured using a Shore Durometer, at scale.

Notes:

- 1) The composition of the rubber used in retreads produced for other customers or other contracts shall have NO affect on the rubber composition of retreads sold under this contract.
- 2) Tread rubber shall contain no reclaimed rubber (defined as components from scrapped tires, which are ground up for use as "filler").

TREAD WIDTH:

The actual tread width of the retread tire provided shall be within the range of best industry practice for the tire size and the intended application of the retread. Tires which have a tread width narrower than the lower limit of this best industry practice range may be rejected for not fulfilling the requirements of the contract.

TIRE DIAMETER TOLERANCE:

Since most or all of the tires purchased under this contract may be used in dual tire and/or tandem axle applications, consistency in diameter is essential, per "Matching of Tires on Dual Wheel Positions," on the Tire Retread and Repair Information Bureau website; <http://www.retread.org/> . Therefore, the diameter tolerance for all new retreads with the same size and tread pattern, throughout the life of the contract, will be as follows:

- 8.25R20 and under: No more than 1/4" difference in measured diameter between any two new retreads of a given size selected at random, regardless of time of selection or elapsed time between production dates of the selected samples.
- 9.00R20 and up: No more than 1/4" difference in measured diameter between any two new retreads of a given size selected at random, regardless of time of selection or elapsed time between production dates of the selected samples.
- Twin screw (all sizes): No more than 1/4" difference in measured diameter between any two new retreads of a given size selected at random, regardless of time of selection or elapsed time between production dates of the selected samples.

As part of the "Post Award Meeting" agenda, discussions will be held with each major user (NC DOT and NC DPI Office of Director of Transportation) and each awarded bidder, in order to assure tire diameter tolerance across all retreads regardless of manufacturer of original casing. During this meeting a single and reasonable contract tire diameter will be established for each specific retread tire line item.

Diameter of each completed retread, or of the under-tread of each buffed casing, shall be accurately measured by the contractor, for the purpose of determining compliance with this diameter tolerance requirement. Retreads which are out of compliance shall not be sold under this contract. Furthermore, new retreads which are determined by the user to be out of compliance will be returned to the contractor for full credit.

TREAD DESIGN:

For each line item, bidder is to offer a single tread design. This offered design shall (1) meet the minimum tread depth as specified herein for the respective line item, (2) shall meet all other requirements herein, (3) shall be listed in the bidder's published catalog, (4) shall have the safety, expected mileage, and durability typical of a NEW tire of similar tread design and tread depth, and (5) shall be acceptable to the respective major user (NC DOT, or NC DPI [representing the LEAs]).

At bidder's option, bidder may offer more than a single tread design for a given line item, and this will be considered an alternate bid, and tabulated and ranked as such. In such case, bidder shall clearly state price for each such additional tread design on a separate page or by making and using a duplicate copy of the price submittal page herein. If using a separate page, bidder shall also clearly identify the line item for which each additional tread design is being offered.

If during the evaluation of the bid, the State determines that an offered tread design will NOT reasonably meet the user's needs, such determination will be made a matter of record for the permanent bid file, and that bid may then be rejected on that basis alone. However, it should be understood that the State's intent is to accept any tread design offered which appears to fulfill the user's needs. Note that for purposes of determination of acceptability, the State may require a sample and dimensioned drawing of the exact tread design being offered, such sample and drawing due in the office of the Division of Purchase & Contract within three (3) consecutive working days after request to bidder, at no charge.

DEFINITIONS:

The following definitions, which are taken from "Industry Recommended Practices for Tire Retreading & Tire Repairing," apply to this bid:

Nail hole: A penetration in the tread area caused by a small object, not to exceed 1/4" (6mm) in a passenger tire or 3/8" (10mm) in a light or medium truck tire.

Spot repair (radial): A repair that is in the rubber portion of the casing only; can be to, but not through any ply. Minor repairs are allowed to belts in the tread area.

Section repair: Repairs, other than nail holes, made to the casing when an injury has extended through 75% or more of the actual plies, or completely through the casing in the tread or sidewall areas. Some jurisdictions may have different limits. [NOTE: This State of North Carolina IFB adopts these limits.]

All other definitions in "Industry Recommended Practices for Tire Retreading & Tire Repairing," as applicable, apply to this IFB and the resulting contract.

REPAIRS:

Charges for repairs shall reflect prices for same as bid herein. For definitions of repair terms used below, see definitions elsewhere herein. Any repairs which are required during the retread process may be billed only as follows:

(1) SPOT REPAIRS:

ALL spot repairs shall be included in the bid price for the retread tire. No separate charges for any spot repairs performed on these tires may be billed. All required spot repairs shall be performed. Contractor's adherence to this requirement is essential due to SAFETY considerations. Because of the seriousness of this matter, if it is determined by the State at any time, by any means, including but not limited to investigation of failures of retreads purchased from contractor and unannounced audits at contractor's plant, that contractor has willfully failed, or is willfully failing, to perform all required spot repairs, the contract may be immediately terminated and remedies sought in accordance with the attached General Contract Terms and Conditions.

- (a) For NCDOT Tires: From historical data, the estimated average number of spot repairs performed for 11R22.5 tires is 16, while the estimated average number of spot repairs performed for 1400R24 tires is 20. By way of explanation, bidder is advised that NCDOT tires of all types often operate in an abusive environment, and therefore when presented for retreading are generally not in the relatively "clean" condition typical of tires which may be received from school buses and over-the-road trucks.
 - (b) For LEAs (Local Education Authorities) Tires: From historical data, the estimated average number of spot repairs performed for all sizes of LEA tires covered by this contract is 5.
- (2) SECTION REPAIRS: For ALL users, only section repairs that are visually verifiable on the finished retread shall be charged for. In addition, all section repairs for each tire shall be approved by the user before being performed.
- (3) NAIL HOLES: For ALL users, only nail hole repairs that are visually verifiable on the finished retread shall be charged for. All necessary nail hole repairs shall be performed. Advance approval by the user is not required.
- (3) OTHER REPAIRS: There shall be no charges for repairs other than of the above types.

MAXIMUM ALLOWABLE AGE OF CASING:

Casings which are more than six (6) years old shall not be retreaded. If user accidentally presents to contractor for pickup a casing older than this, contractor shall return such casing to user, with written explanation.

MAXIMUM ALLOWABLE NUMBER RETREADS ON A CASING:

Casings may be retreaded a total of two (2) times during the life of the casing for the LEAs, and a total of three (3) times during the life of the casing for NCDOT and all other users. These limits include retreads on the casing completed prior to this contract. If number of times casing has been retreaded is not indicated on the sidewall as received by contractor, then contractor is to request from user and receive in writing a statement of how many times the casing has been retreaded so that contractor can place correct information concerning same on the sidewall (see "Information Required on Sidewall" herein). If such statement is not received from user, contractor shall return the casing at issue to the user, with written explanation.

MAXIMUM ALLOWABLE NUMBER OF NEW NAIL HOLES ON A CASING:

The maximum number of nail holes permissible for a casing to be retreaded under this contract is as specified in "Recommended Specification Guidelines For Preparing a Tire Retread and Repair Government Bid" (published by Goodyear, as presented on the Tire Retread Information Bureau website: <http://www.retread.org/PDF/RetreadSpecGuide2003.pdf>). See section for "Radial Repairs, Nail Hole", which reads as follows:

RADIAL REPAIRS

Nail Hole:

Nail hole injuries may be repaired before or after a tire is buffed. Any number of nail holes may be repaired in the repairable area of a radial truck tire. The only limiting factor is that the repair patches do not overlap. Injuries 3/8" (9mm) and smaller through the approved repairable crown area shall be repaired using a repair patch and a suitable fill material in the injury. If the injury is larger than 3/8" (9mm) in the crown area after the damage and rust have been removed, the tire will require a section repair.

Any injury through the ply cords of a sidewall will require a section repair.