**Section 428.20 Unsafe Conditions of Tires**

A tire is considered to be unsafe if it exhibits any one of the following conditions or any combination of these conditions.

a) EXPOSED PLY OR CORD. A ply or cord is exposed when any portion of the ply or cord material can be seen by the person inspecting the tire. If parting or lifting the edge(s) of a crack, cut, snag, flap, or other tire surface interruption allows ply or cord material to be seen, the ply or cord is exposed.

b) BULGE, KNOT OR SEPARATION IN EITHER SIDEWALL OR TREAD AREA. These conditions indicate deterioration or internal damage of the tire structure. A bulge or knot usually indicates cord, sidewall, and/or tread separation, often accompanied by or caused by seepage of compressed air through the tire structure. A tire with any other condition that shows separation in sidewall or tread area or with any knot or bulge not accompanied by evidence of separation also shall be considered to be unsafe.

c) A MARKING THAT INDICATES THE TIRE IS NOT INTENDED FOR USE ON PUBLIC STREETS OR HIGHWAYS. Some examples are: "Unsafe for highway use", "Not for highway use", "For racing purposes only", and "For beach use." These or other markings might be applied by branding, cementing, cutting, molding, vulcanizing, or otherwise generating or affixing depressed or raised letters, numerals, or other suitable characters, into or onto a tire, either when the tire is manufactured or subsequent to manufacture. Other examples and descriptions are given in Appendix B.

d) ABSENCE OF A READABLE MARKING SHOWING THE SIZE DESIGNATION OF A TIRE OR ABSENCE OF A READABLE MARKING SHOWING THE RELATIVE LOAD CARRYING ABILITY OF THE TIRE.

1) These markings are needed to minimize installation and use of tires of incorrect size or load carrying ability. Tire size markings are shown in Appendix A. Relative load carrying ability markings are:

|  |  |  |
| --- | --- | --- |
| LoadRange | Ply orPly Rating | MaximumInflation Pressure |
|  |  |  |
| B | 4 | 32 psi\* |
| C | 6 | 36 psi |
| D | 8 | 40 psi |
|  |  |  |
|  |  | \*Pounds per square inch |

2) The markings shown on each horizontal line in the above table indicate equivalent relative load carrying ability. The presence of any one of the three types, together with a size marking, is satisfactory.

e) TREAD WEAR INDICATORS FLUSH WITH THE TREAD OUTER SURFACE IN ANY 2 OR MORE ADJACENT TREAD GROOVES AT 3 LOCATIONS EQUALLY SPACED AROUND THE CIRCUMFERENCE OF THE TIRE. A tire is considered to be unsafe when the flush condition exists:

1) In the same pair of adjacent grooves at each of the 3 locations; or

2) In the same pair of adjacent grooves at 2 of the locations and in a different pair of adjacent grooves at the 3rd location; or

3) In a different pair of adjacent grooves at each of the 3 locations.

 Note: Tread wear indicators were molded into the bottoms of tread grooves in passenger car tires manufactured in compliance with federal requirements after July 31, 1968. They were molded into the grooves of many tires manufactured prior to that time. Tread wear indicators might be molded into the grooves of retreaded or recapped tires.

f) A TREAD GROOVE DEPTH OF LESS THAN 2/32nds (1/16th) OF AN INCH MEASURED IN ANY 2 OR MORE ADJACENT TREAD GROOVES AT 3 LOCATIONS ESSENTIALLY EQUALLY SPACED AROUND THE CIRCUMFERENCE OF THE TIRE, AT LEAST ONE OF WHICH IN THE JUDGEMENT OF THE INSPECTING OFFICER IS A LOCATION AT WHICH THE TREAD IS THINNEST, EXCLUSIVE OF TIE BARS OR TREAD WEAR INDICATORS. This rule is primarily for treads without tread wear indicators but, at the discretion of an inspecting officer, it may be used for a tread with tread wear indicators. When using this rule, do not measure on, or directly above, any tie bar or tread wear indicator.

1) Any tire without tread grooves (i.e. "slick" or "bald") either in an area covering 2 or more tread grooves or in an area covering 25 percent (¼), or more, of the tread width is considered to have a tread groove depth of less than 2/32nds of an inch in 2 or more adjacent tread grooves at the location of such area. Depth measurements are not necessary in such an area.

2) If the "slick" or "bald" condition of Section 428.20(f)(1) is not present, measure tread groove depths in at least 2 adjacent grooves at a location where the tread appears to be thinnest, i.e. where the tread grooves appear to be shallowest. If the groove depth equals or exceeds 2/32nds of an inch in either of the 2 shallowest adjacent grooves at this location, no additional measurements are necessary and tread groove depth is satisfactory.

3) If the groove depths are less than 2/32nds of an inch in the 2 adjacent grooves checked under Section 428.20(f)(2), above, take measurements at 2 additional locations spaced within 5 degrees of 120 degrees around the tire circumference from the first location, in each case measuring in at least the 2 adjacent grooves that appear to be shallowest. If the groove depths in 2 adjacent grooves are less than 2/23nds of an inch at both these additional locations, the tire is considered to be unsafe. Note that this requires three pairs of groove depths less than 2/23nds of an inch in adjacent grooves, but that the same pair of adjacent grooves need not be measured in each of the three locations (See Section 428.20(e), above).

4) Additional information, examples, and requirements concerning tread groove measurements are given in Appendix B.

g) REGROOVED OR RECUT IN ANY PORTION OF THE TREAD AND NOT MEETING ALL APPLICABLE REQUIREMENTS SET FORTH AND REFERRED TO IN SECTION 428.20(g)(2), BELOW.

1) Irregular or erratic tread grooves are evidence of manual regrooving. The irregularities might be evidenced by erratic shapes or depths of grooving or by erratic variations in rib width or the shape, location, or spacing of any pattern or design formed in the tread by the tread grooves. Straight grooves without any of the evenly spaced lateral offsets, undulations, or variations, usually formed in molded tread grooves could be evidence of machine regrooving. If grooves are cut by a machine that generates periodic lateral offsets, etc., the spacing of the offsets might be erratic where the end of a grooving cut joins the start of the cut.

2) A properly regrooved and marked tire may be sold, leased, installed or used. A tire that is branded "REGROOVED" on each sidewall in letters not less than one inch in height, and that meets all applicable requirements of the Federal Motor Vehicle Safety Regulation for Regrooved Tires shown in (49 CFR 569) is not considered to be unsafe. The applicable requirements are shown and explained in Appendix B.