

at 320 kPa. RMA also suggested that the proposed inflation pressures result in more overload (or over-deflection) in light truck tires compared to passenger tires and suggests the following test pressures: LT load range C: 330 kPa; LT load range D: 425 kPa; and, LT load range E: 520 kPa.

These inflation values, however, are too high for testing because they do not reflect values that are similar to the cold inflation pressures recommended by vehicle manufacturers and are not representative of inflation pressures obtained from vehicles measured during the consumer tire pressure surveys.

The agency establishes a test inflation pressure of 220 kPa (32 psi) for all unrated and speed rated P-metric tires and 260 kPa for extra load tires. The agency establishes the following inflation pressures for LT tires based upon their higher maximum inflation pressures: 320 kPa for load range C, 410 kPa for load range D, and 500 kPa for load range E tires.

The adopted inflation pressures are based on surveys showing that tires are typically operated at some level of underinflation.²⁸ Given the tire pressure survey data, the agency selected the proposed test pressures based on the level of underinflation experienced during normal vehicle operation. The 220 kPa value represents an under-inflation of 20 kPa (3 psi) or 8 percent from the 240 kPa maximum inflation pressure, and 260 kPa represents an under-inflation of 20 kPa (3 psi) or 7 percent from the 280 kPa maximum inflation pressure.

The agency believes that RMA's inflation pressure values are too high for high speed testing because (1) they do not reflect values that are similar to the cold inflation pressures recommended by vehicle manufacturers, and (2) they do not correspond well with the real-world inflation pressures recently obtained from the vehicles measured during a recent NHTSA sponsored consumer tire pressure survey.²⁹

²⁸ A tire pressure survey conducted by Viergutz, et al., on 8,900 tires in 1978 reported that almost 80 percent of all tires were under-inflated with approximately 50 percent under-inflated by 4 psi (28 kPa) or more below the recommended pressure. The average amount of under-inflation recorded in this survey was approximately 3.2 psi (22kPa) below the recommended amount. More recently, data from the 2001 NASS Tire Pressure Study, conducted on over 11,000 vehicles, indicate that about 60 percent of P-metric tires used on passenger cars were under-inflated with about 40 percent being under-inflated by 3 psi or more below the recommended inflation pressure. For P-metric tires used on light trucks, about 70 percent were under-inflated, with about 50 percent under-inflated by 3 psi or more below the recommended inflation pressure.

²⁹ In Spring 2001, the National Center for Statistics and Analysis (NCSA) conducted the 2001

Although 220 kPa is the same test pressure specified in FMVSS No. 109, this test pressure, in conjunction with the higher test speeds, represents a more stringent test than that contained in FMVSS No. 109. Further, agency test results indicate that 220 kPa is a test inflation pressure that is appropriate for the high speed test given the parameters of speed, load and test duration.

d. Speed

The majority of commenters who commented on the high speed test recommended that the agency adopt speeds for this test based on the rated speed of the tire. Commenters suggested this approach, arguing that consumers rely upon speed ratings to select an appropriate tire for their vehicles. Also, some commenters noted that calculating the test speed based on the speed rating of the tire is an approach identical to that used in the European tire regulation, ECE R30, GTS-2000, and in the Society of Engineers (SAE) Recommended Practice J1561, *Laboratory Speed Test Procedure for Passenger Car Tires*. Some commenters stated that speed steps based on speed ratings provide a more stringent test and greater promise for achieving future international harmonization. The Alliance commented that the agency should consider the high speed test in GTS-2000 for harmonization reasons and also because there is no evidence of a safety problem with tires complying with ECE R 30, which is the European high speed test procedure upon which GTS-2000 is modeled. RMA suggested that if the agency did not base test speeds on speed ratings, then it should reduce the test speeds for LT tires to 130, 140, and 150 km/h to approximate the same level of stringency for LT tires tested on a test wheel (temperature increase) experienced by P-metric tires tested on a test wheel. GM suggested that we consider establishing 120 mph as a fixed test speed value since many of their light trucks are equipped with LT tires speed rated Q and R 160 km/h (99 mph) and 170 km/h (106 mph), respectively.

NHTSA has decided to adopt the proposed speeds of 140, 150, 160 km/h

National Automotive Sampling System (NASS) Tire Pressure Special Study (NASS Study) in response to the TREAD Act. The Preliminary Analysis of Findings, 2001 NASS Tire Pressure Special Study, dated May 4, 2001, has been placed in Docket No. NHTSA-00-8572. Data obtained as part of this study indicate that about 36 percent of passenger cars and 40 percent of light trucks had at least one tire that was at least 20 percent below the vehicle manufacturer's recommended cold inflation pressure. About 26 percent of passenger cars and 29 percent of light trucks had at least one tire that was least 25 percent below the vehicle manufacturer's recommended cold inflation pressure.

(87, 93, 99 mph) for P-metric and LT tires. These speeds represent a substantial increase in the level of stringency from the test speeds currently used in FMVSS No. 109 and 119 for which tires are tested at 75, 80, and 85 mph for 30 minutes at each speed. This approach more closely mirrors the upper limit of real world operational speeds in the United States beyond which drivers have few opportunities to operate their vehicles. These speeds will also eliminate from production any current tires whose performance just achieved the lowest rung of Temperature resistance rating in our Uniform Tire Quality Grading standards (UTQG), "C" rated tires. Tires with a UTQG temperature grade "C" are less resistant to heat buildup as compared to tires rated "A" or "B."

Drivers in the U.S. do not typically operate their vehicles at speeds above 100 mph. Maximum speed limits on U.S. highways range from 55 to 75 mph. Some vehicle manufacturers, e.g., GM and Ford, electronically restrict most of their vehicles top speeds at approximately 106 mph. NHTSA also believes that an upper test speed threshold of 160 km/h (99 mph) ensures a minimum level of safe operation that is 25-30 mph beyond typical speed limits on interstate highways in the U.S.

Under the UTQG test procedure, a tire is rated "C" if it fails to complete the test at 100 mph for 30 minutes. The test is initiated at 75 mph for 30 minutes and then successively increased in 5 mph increments for 30 minutes each until the tire has run at 115 mph for 30 minutes. Therefore, tires with a temperature grading of C may be able to complete 30 minutes at speeds of 75, 80, 85, 90, and 95 mph (120, 128, 136, 144, and 152 km/h), but not complete the 100-mph (160 km/h) step. By establishing the final step of the high speed test at 160 km/h (99 mph), the agency expects that a larger number of tires with a temperature grade of "C" may fail the minimum performance test in the tire standard.

This decision does not prohibit tire manufacturers from continuing the practice of using speed ratings as a basis for establishing maximum design speed characteristics for tire performance. As discussed in the Tire Safety Information final rule, the agency neither requires nor prohibits that tires be labeled with a speed rating. Additionally, we do not prohibit vehicle manufacturers from specifying that consumers purchase replacement tires labeled with the same speed rating as the OE tire.

The agency has decided not to reduce the test speed for LT tires. The agency is not aware of any data, nor has it been