QC

PROFESSIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国汽车行业标准

QC/T 480–1999

Criterion thresholds and evaluation of controllability and stability for automobiles

汽车操纵稳定性指标限值与评价方法

Issued on March 15, 1999 **Implemented on March 15, 1999**

Issued by **General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China**

Standardization Administration of the People's Republic of China

Contents

Criterion thresholds and evaluation of controllability and stability for automobiles

汽车操纵稳定性指标限值与评价方法

QC/T 480-1999
Replaces GB/T 13047-91

1 Subject and scope of application

This standard specifies the criterion thresholds and evaluation of controllability and stability for automobiles.

This standard applies to vehicles running on highways and urban roads. The vehicles running on off-roads may be handled with reference to it.

2 Steady-state cornering test

2.1 This test is evaluated and scored with three indicators including lateral acceleration at neutral steering point, a_n, degree of understeering U, and roll rate of autobody K_φ.

2.2 See Table 1 for the lower limit value a_{n60}, U_{60} and $K_{\varphi 60,}$ along with the upper limit values a_{n100}.U_{100} and $K_{\varphi 100}$ with respect to a_n, U and K_φ.

Table 1

Model	Indicators					
	a_{n60} m/s^2	a_{n100} m/s^2	U_{60} (°)(m/s^2)	U_{100} (°)(m/s^2)	$K_{\varphi 60}$ (°)(m/s^2)	$K_{\varphi 100}$ (°)(m/s^2)
Cars, passenger buses, and trucks with a maximum total mass not greater than 2.5 t	5.00	9.80	1.00 0.60[1)]	0.40 0.24[1)]	1.20	0.70
Passenger buses and trucks with a maximum total mass greater than 2.5 t but not great than 6 t	4.00	8.00	1.20	0.50		
Passenger buses and trucks with a maximum total mass greater than 6 t	3.00	6.00			1.20 1.40[2)]	

NOTES

1) For the vehicles running at maximum speed greater than 160 km/h.

2) For the passengers buses with a maximum total mass greater than 9 t.

2.3 The lateral acceleration at neutral steering point, a_n, is defined as the lateral acceleration at point that the slope is zero on the curve of the difference of sideslip angles between the front axle and the rear axle vs. the lateral acceleration. Within the lateral acceleration range tested, where no neutral steering point is present, the value of a_n is predicted in generalized least squares (least square method) as the fitting curve of cubic polynomial without constant term.

2.3.1 The lateral acceleration at neutral steering point, $a_{n,}$ is evaluated and scored according to Equation (1).

$$N_{a_n} = 60 + \frac{40}{a_{n100} - a_{n60}} \bullet (a_n - a_{n60}) \quad \text{..... (1)}$$

where

N_{a_n} is the value of the evaluation and score of lateral acceleration at neutral steering point;

a_n is the test value, in m/s^2, of the lateral acceleration at neutral steering point;

北京文心雕语翻译有限公司
Beijing Lancarver Translation Inc.

完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email：info@lancarver.com

http://www.lancarver.com

对公账户：

单位名称：北京文心雕语翻译有限公司

开 户 行：中国工商银行北京清河镇支行

账　　号：0200 1486 0900 0006 131

支付宝账户：info@lancarver.com

注: 付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！