

# Test Report

No.: 70.300.21.10057.01

Date: 2021-03-18

Applicant: MAGIX PRECISE MACHINERY (KUNSHAN) CO., LTD.  
99 CHANGSHUN ROAD, ZHANGPU TOWN KUNSHAN CITY CHINA.

Product Name: Handlebar stem

Style No.: MAS-MD6036-8/5

Receipt Date of Sample: 2021-02-19

Date of Testing: 2021-02-22 ~ 2020-03-16

Sample Submitted: The sample(s) was (were) submitted by applicant and identified.

Test Result: Refer to the data listed in following pages

Test Item	Conclusion
EN ISO 4210-2: 2015 Cycles — Safety requirements for bicycles — Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles clause 4.7 Steering as per the client's requirement.	Pass

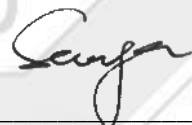
TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch  
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Unless otherwise agreed upon, Pass or Fail verdicts are given based on the measured values without any considerations of measurement uncertainties. Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail.

**Description of the test subject:**

Sample list		Description	Photo
Sample Received on: 2021-02-19		Handlebar stem MAS-MD6036-8/5 Weight: 133.5 g	
Handlebar stem	3 pcs		

**Abbreviation summary:**

P = Pass; F = Fail; NA = Not applicable;



Test Result(s):

EN ISO 4210-2: 2015 Cycles — Safety requirements for bicycles — Part 2: Requirements for city and trekking, young adult, mountain and racing bicycles clause 4.7 Steering as per the client's requirement.

Clause	Test Requirement	Result	Verdict
4.7	Steering		
4.7.3	Handlebar-stem – insertion-depth mark or positive stop		
	The handlebar stem shall be provided with one of the two following alternative means of ensuring a safe insertion depth into the fork steerer.	-	NA
	a) It shall contain a permanent, transverse mark, of length not less than the external diameter of the stem, that clearly indicates the minimum insertion depth of the handlebar stem into the fork steerer. The insertion mark shall be located at a position not less than 2,5 times the external diameter of the handlebar stem from the bottom of the stem, and there shall be at least one stem diameter's length of contiguous, circumferential stem material below the mark.	-	NA
	b) It shall incorporate a permanent stop to prevent it from being drawn out of the fork steerer such as to leave the insertion less than the amount specified in item a).	-	NA
4.7.4	Handlebar stem to fork steerer — Clamping requirements		
	The distance g (see Figure 4) between the top of the handlebar stem and the top of the fork steerer to which the handlebar stem is clamped shall not be greater than 5 mm. The upper part of the fork steerer to which the handlebar stem is clamped shall not be threaded. The dimension g, shall also ensure that the proper adjustment of the steering system can be achieved.	-	NA
4.7.6	Steering assembly – static strength and security tests		
4.7.6.1	Handlebar-stem – lateral bending test		
4.7.6.1.1	General		
	This test is intended for stem manufacturers who do not produce handlebars.	Complied	P
4.7.6.1.2	Requirement		
	When tested by the method described in ISO 4210-5:2014, 4.2, there shall be no cracking or fracture of the stem and the permanent deformation measured at the point of application of the test force and in the direction of the test force shall not exceed 10 mm. Handlebar stems can influence test failures of handlebars, but handlebars do not usually influence test failures of stems. For these reasons, a handlebar is always to be tested mounted on a stem, but stems can be tested with a solid bar in place of a handlebar.	Complied	P
4.7.6.2	Handlebar and stem assembly – lateral bending test		

Clause	Test Requirement	Result	Verdict
4.7.6.2.1	General		
	This test is for manufacturers who produce handlebars and stems or for cycle manufacturers.	-	NA
4.7.6.2.2	Requirement		
	When tested by the method described in ISO 4210-5:2014, 4.3, there shall be no cracking or fracture of the handlebar, stem, or clamp-bolt and the permanent deformation measured at the point of application of the test force shall not exceed 15 mm.	-	NA
4.7.6.3	Handlebar-stem – forward bending test		
4.7.6.3.2	Requirement for stage 1 When tested by the method described in ISO 4210-5:2014, 4.4.1, there shall be no visible cracks or fractures and the permanent deformation measured at the point of application of the test force and in the direction of the test force shall not exceed 10 mm.	F:1600N Deformation:0.1mm	P
4.7.6.3.3	Requirement for stage 2 When tested by the method described in ISO 4210-5:2014, 4.4.2, there shall be no visible cracks or fractures.	F:2600 N No visible cracks or fractures were present on the sample after this test.	P
4.7.6.4	Handlebar to handlebar-stem – torsional security test		
	When tested by the method described in ISO 4210-5:2014, 4.5, there shall be no movement of the handlebar relative to the handlebar stem.	Test torque: 80 Nm No movement was present between the handlebar and handlebar stem.	P
4.7.6.5	Handlebar stem to fork steerer — Torsional security test		
	When tested by the method described in ISO 4210-5:2014, 4.6, there shall be no movement of the handlebar stem relative to the fork steerer.	Complied	P
4.7.6.6	Bar-end to handlebar – Torsional security test		
	When tested by the method described in ISO 4210-5:2014, 4.7, there shall be no movement of the bar end in relation to the handlebar.	-	NA
4.7.6.7	Aerodynamic extensions to handlebar — Torsional security test		
	When a handlebar is suitable for use with aerodynamic extensions, the extension/handlebar/handlebar stem assembly shall withstand the following security test. When tested by the method described in ISO 4210-5:2014, 4.8, there shall be no movement of the extension in relation to the handlebar and of the handlebar in relation to the handlebar stem.	-	NA
4.7.7	Handlebar and stem assembly — Fatigue test		
4.7.7.1	General		

Clause	Test Requirement	Result	Verdict
	Handlebar stems can influence test failures of handlebars and, for this reason, a handlebar shall always be tested mounted on a stem, but it is permitted to test a stem with a solid bar in place of the handlebar and bar ends with dimensions corresponding to handlebars/bar ends suitable for that stem. When the fatigue test is for the stem only, the manufacturer of the stem shall specify the types and sizes of handlebar for which the stem is intended and the test shall be based on the most severe combination. Conduct the test in two stages on the same assembly.	complied	P
4.7.7.2	Requirement for stage 1 and stage 2		
	When tested by the method described in ISO 4210-5:2014, 4.9.1 or 4.9.2, there shall be no visible cracks or fractures in any part of the handlebar and stem assembly or any bolt failure. For composite handlebars or stems, the running displacements (peak-to-peak value) at the points where the test forces are applied shall not increase by more than 20 % of the initial values.	complied	P

Remark: The above tests were conducted as a mountain bike, and these tests conducted with a handlebar width of 610 mm, except clause 4.7.7.2 stage 2 conducted with a handlebar width of 500mm.

