

Test Report

ON BEHALF OF
YIWU MENGLEI TRADE CO., LIMITED

Polypropylene fiber

Prepared For : YIWU MENGLEI TRADE CO., LIMITED.

NO.955, CHOUZHOU NORTH ROAD, YIWU,
ZHEJIANG, CHINA

Prepared By : OCT TECHNOLOGY TESTING CO., LTD.

Unit 1103-2, Yuefang Center Huangge Sub-district,
Nansha District, Guangzhou City

Date of Test : Mar 20-24, 2026

Date of Issue : Mar 24, 2026

Test Report EN 14889-2 Fibres for concrete - Part 2: Polymer fibres — Definitions, specifications and conformity	
Testing laboratory	Oct Technology Testing Co., Ltd.
Address	Unit 1103-2, Yuefang Center Huangge Sub-district, Nansha District, Guangzhou City
Report bod.	Oct Technology Testing Co., Ltd.
Address.....	Unit 1103-2, Yuefang Center Huangge Sub-district, Nansha District, Guangzhou City
Applicant.	YIWU MENGLEI TRADE CO., LIMITED.
Address	NO.955, CHOUZHOU NORTH ROAD, YIWU, ZHEJIANG, CHINA
Standard	EN 14889-2:2006
Test Result.	Compliance with EN 14889-2:2006
Procedure deviation	N.A.
Non-standard test method	N.A.
Trademark	砼伴 (TONG BAN) .
Type of test object	Polypropylene fiber
Model/type reference	3mm /6mm/9mm/12mm/19m/30mm/40mm/48mm/54mm Article No. PW-1 PG-1 CW-1 CG-2
Manufacturer	YIWU MENGLEI TRADE CO., LIMITED
Address	NO.955, CHOUZHOU NORTH ROAD, YIWU, ZHEJIANG, CHINA

General remarks

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see appended table)" refers to a table appended to the report.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Remark:

Photos view:

(See appendix 1)

Possible test case verdicts :	
test case does not apply to the test object	: N (.A.)
test object does meet the requirement	: P(ass)
test object does not meet the requirement	: F(ail)
Name and address of the testing laboratory: <u>Oct Technology Testing Co., Ltd.</u> Unit 1103-2, Yuefang Center Huangge Sub-district, Nansha District, Guangzhou City	
<div style="display: flex; justify-content: space-between; align-items: flex-end; padding-top: 100px;"> <div style="width: 45%;"> <p>Reported by :</p> <p>Approved by :</p> </div> <div style="width: 15%; text-align: center;">  </div> <div style="width: 40%;"> <p>_____</p> <p>_____</p> </div> <div style="width: 15%; text-align: center;"> <p>_____</p> <p>_____</p> </div> </div>	

EN 14889-2			
Clause	Requirement – Test	Result - Remark	Verdict
4	Symbols		P
	Symbols used in this standard are defined as follows:		P
	A area of the cross section of the fibre, in mm ²		P
	d diameter of a fibre with a circular cross section, in mm;		P
	d _e equivalent diameter of the fibre, in mm;		P
	l measured length of the fibre, in mm;		P
	l _d developed length of the fibre in mm;		P
	m mass of the fibre, in g;		P
	$\lambda = l / d$ and is the aspect ratio of the fibre;		P
	P density of the polymer, in kg/m ³ ;		P
	E elastic modulus of the fibre, in Mpa.		P
5	Requirements		P
5.1	Classification of fibres		P
	The fibre shall confirm to one of the group or one of the shape listed below :		P
	Polymer fibres shall be characterised by the manufacturer in accordance with their physical form: Class Ia: Micro fibres: < 0,30 mm in diameter; Mono-filamented Class Ib Micro fibres: < 0,30 mm in diameter; Fibrillated Class II: Macro fibres: > 0,30 mm in diameter	Class II	P
5.2	General		P
5.2.1	Polymer type		P
	The basic polymer(s) or blends of polymers of the fibre shall be declared.	Polypropylene	P
5.2.2	Shape		P
	Polymer fibres may be either straight or deformed. The type of deformation shall be declared.	straight	P
5.2.3	Bundled polymer fibres		P
	The type and size of the fibre bundle (e.g. glued, wrapped) shall be declared.	wrapped	P
5.2.4	Surface treatment or coating		P
	Any surface treatment or coating (type and quantity), and any chemical or physical treatment of polymer fibres		P

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	shall be declared and controlled.		
5.3	Dimensions and tolerances		P
5.3.1	General		P
	The length, diameter and aspect ratio shall be declared for all fibres. The linear density shall be declared for Class I fibres. Specimens of fibres, when sampled in accordance with 6.2.2 and measured in accordance with 5.3.2 and 5.3.3 shall not deviate from the declared value by more than the tolerances given in Table 1.		P

Table 1 — Tolerance limits for the dimensions of the fibres

Property	Symbol	Deviation of the individual value relative to the declared value	Deviation of the average value relative to the declared value
Length and developed length (all fibres)	l, l_d		
>30 mm	(if applicable)	± 10 %	± 5 %
≤ 30 mm			± 1,5 mm
Class II fibres > 0,30 mm			
(equivalent) diameter	d_e	± 50 %	± 5 %
length/diameter ratio	λ	± 50 %	± 10 %
Class I fibres ≤ 0,30 mm			
linear density	ρ_L	± 10 %	± 10 %

P

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5.3.2	Length		P
	The length shall be measured with a marking gauge with an accuracy of 0,1 mm.	50.0mm	P
	In the case of an irregular cross section, the developed length of the fibre shall be determined		P
5.3.3	Determination of (equivalent) diameter		P
5.3.3.1	Fibre with circular cross section		P
	For Class I fibres with a diameter less than 0,3 mm, the diameter shall be measured using optical measuring equipment.		P
5.3.3.2	Fibre with elliptical cross section		P
	The diameter of the fibre shall be measured with a micrometer, in two directions, approximately at right angles, to a precision of 0,001 mm. The fibre diameter shall be the mean of the two diameters.		P
5.3.3.3	Rectangular fibres		P
	The width (w) and thickness (t) of the fibres shall be measured with a micrometer to a precision of 0,001 mm.		P
	The equivalent diameter, d_e , is calculated as $d_e = \sqrt{\frac{4 \cdot w \cdot t}{\pi}}$		P
5.3.3.4	Fibres with irregular cross section		P
	The mass, m_f [g], and the developed length, l_d [mm], of the fibre shall be determined. The mass shall be determined to an accuracy of 0,001 g and the length to an accuracy of 0,01 mm. The equivalent diameter shall be computed from the mass and the developed length using the following formula with the nominal density of the fibre, in [g/cm ³]: $d_e = \sqrt{\frac{4 \cdot m_f \cdot 10^6}{\pi \cdot l_d \cdot \rho}}$		P
5.4	Tensile strength of fibres		P

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	The tensile strength, R_m , shall be determined in accordance with the method according to EN 10002-1, except that the rate of extension shall not exceed 10 mm/min, and shall be declared		P
5.5	Modulus of elasticity		P
	The modulus of elasticity for polymer fibres shall be tested according to EN 10002-1 and shall be declared. The modulus shall be calculated using the stress and deformation at 10% and 30% of R_m . 30 individual strands shall be tested and all results shall be included in the calculation for the average and standard deviation. The acceptable tolerance		P
	on the declared value of the Modulus of Elasticity is 15% for individual values and 10% for the mean value.		P
5.6	Melting point and point of ignition		P
	The melting point and point of ignition shall be determined in accordance with ISO 11357-3 and shall be declared.		P
5.7	Effect on consistence of concrete		P
	The effect of fibres on the consistence of a reference concrete conforming to pr EN 14845-1 shall be determined.		N
	The consistence according to EN 12350-3 shall be determined on the reference concrete without fibres and then on an identical mix with fibres. The effect on consistence shall be declared.		P
	The amount of fibres added shall be declared by the manufacturer and shall be the minimum amount of fibres needed to obtain the required strength specified in 5.8. If a plasticiser or superplasticiser is needed in order to meet the consistence requirements when determining the required addition level of fibres, the amount and type shall also be declared by the manufacturer.		P
	The fibre manufacturer may additionally declare the consistence for the reference concrete with a range of dosages of fibres.		P

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5.8	Effect on the strength of concrete		P
	The effect on strength shall be determined according to EN 14845-2 using a reference concrete conforming to prEN 14845-1. The unit volume of fibres in kg/m ³ shall be declared by the manufacturer that achieves a residual flexural strength of 1,5 MPa at 0,5 mm CMOD (equivalent to 0,47 mm central deflection) and a residual flexural strength of 1MPa at 3,5 mm CMOD (equivalent to 3,02 mm central deflection).		P
5.9	Mixing		P
	Mixing instructions shall be supplied by the manufacturer which recommend the mixing sequence to be adopted when introducing the fibre into both a centrally mixed concrete plant and for a dry batch truck mixed plant.		P
5.10	Release of dangerous substances		P
	Materials used in products shall not release any dangerous substances in excess of the maximum permitted levels specified in a relevant European Standard for the material or permitted in the national regulations of the member state of destination.		N
6	Evaluation of conformity		P
6.1	General		P
	The conformity of a fibre to the requirements of this standard and with the declared values shall be demonstrated by the manufacturer by carrying out both:		P
	initial type testing of the product (see 6.2)		P
	factory production control (see 6.3)		P
	Alternative methods of test to the methods specified in this standard may be adopted except for the initial type tests and in case of dispute, provided that these alternative methods satisfy the following		P
	a) a correlation can be shown to exist between the results from the specified test and those from the alternative test and,		P
	b) the information on which the relationship is based is available.		N

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Clause	Requirement – Test	Result - Remark	Verdict
6.2	Initial type testing		P
6.2.1	General		P
	Initial type testing shall be performed to show conformity with this standard. Tests previously performed in accordance with the provisions of this standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity, etc.) may be taken into account.		P
	The appropriate initial tests shall be repeated whenever a change in the basic materials or manufacturing procedures occurs, or a new product type is being produced.		P
	The tests to be conducted shall be the tests and/or calculations as described in this standard for the following properties:		P
	shape		P
	dimensions and tolerances		P
	Tensile strength		P
	Ductility		P
	effect on strength of concrete		P
6.2.2	Sampling		P
	The minimum sample size shall be as given in Table 2 and shall be drawn at random to be representative of the batch or consignment. Pre-production samples may be used for initial type tests where it is possible to demonstrate that the characteristics of performance are representative of products from the full production process.		P

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Clause	Requirement – Test	Result - Remark	Verdict

Table 2 - Sampling — number of specimens			
Type test			Minimum number per test
Clause	Normative (N), or Optional (O)	Characteristic	
5.3	N	Dimensions; tolerances	30 fibres
5.3.4	N	Shape; tolerances	30 fibres
5.3	N	Tensile properties; tolerances	30 fibres or fibre bundles
5.5	O	Modulus of elasticity (Class II only)	30 fibres
5.6	N	Melting point and point of ignition	30 fibres
5.7	N	Consistence	mean value of 3 tests
5.8	N	Effect on strength of concrete (Class II only)	12 beams
6.3	Factory production control (FPC)		P
6.3.1	General		P
	The manufacturer shall establish, document and maintain a FPC system to ensure that the products placed on the market conform to the requirements of this standard and the declared performance characteristics. The FPC system shall consist of procedures, regular inspections, tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Subsequently, any fundamental changes in basic materials, manufacturing procedures or the control scheme that affects the properties or use of a product shall be recorded in the manual or relevant document, together with the test data that identifies the new characteristics of the fibre.		P
	The results of inspections, tests or assessments requiring action shall be documented, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded.		P
6.3.2	Equipment		P
	All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.		P
6.3.3	Raw materials		P
	The specifications of all incoming raw materials shall be documented, as shall the inspection scheme for ensuring their conformity.	incoming raw materials are documented	P
6.3.4	Design process		P
	The factory production control system shall document the various stages in the design of products, identify the checking procedure and those individuals responsible for all stages of design.		P
	During the design process itself, a record shall be kept of all checks, their results, and any corrective actions taken. This record shall be sufficiently detailed and accurate to demonstrate that all stages of the design phase, and all checks, have been carried out satisfactorily.		P
6.3.5	Product testing and evaluation		P
	The manufacturer shall establish procedures to ensure that the declared values of the characteristics are maintained, as confirmed by the initial type tests.		P
	The characteristics that shall be controlled are:		P
	shape		P

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	Fibre coating , if applicable	No Fibre coating	N
	dimensions and tolerances		P
	Tensile strength		P
	Ductility		P
	The frequency and volume of testing shall be at least that given in Table 3.		P

Table 3 — Minimum number of units for production control

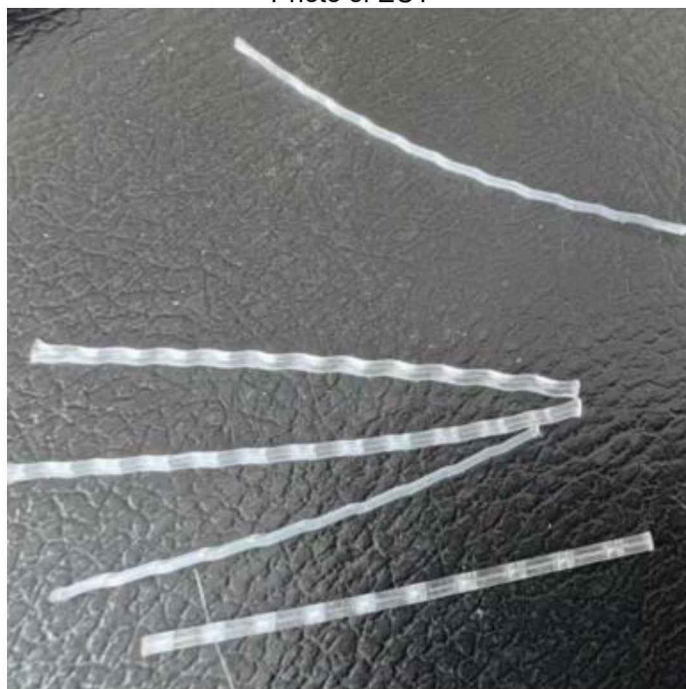
Characteristic	Clause	Assessment method	Number of units		
			Tightened control T	Normal control N	Reduced control R
Shape	5.3.4	5.3.4	1 test/shift/machine	1 test /day /machine	3 tests /week/machine
Control of shape			1 test/shift/machine	1 test /day /machine	3 tests /week/machine
Coating	5.2.4	Depending on type of coating	1 test / shift /machine	1 test/day/machine	3 tests/week/machine
Dimensions and tolerances	5.3	5.3	1 test / shift /machine	1 test/day/machine	1 test/week/machine
Tensile properties	5.4	5.4	1 test per shift.	1 test per day.	3 tests per week.
Elastic modulus	5.5	5.5	1 test per shift.	1 test per day.	3 tests per week.

6.3.6	Traceability		P
	Systems of traceability and control of designs, incoming materials, and the use of materials shall be given in the manual or relevant document.		P
	The stock control system of manufactured products shall be given in the manual or relevant document.		P
6.3.7	Corrective actions for non conforming products		P

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Clause	Requirement – Test	Result - Remark	Verdict
	The immediate actions to be taken when incoming materials or finished products do not conform to the specified requirements shall be described and recorded.		P
	These actions shall include the steps necessary to rectify the deficiency, modify the manual or relevant document if required, identify and isolate the deficient raw or incoming materials and finished products and determine whether they shall be discarded or re-specified under a concessionary system		P

Appendix 1

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*****THE END*****