



THANGAL KUNJU MUSALIAR COLLEGE OF ENGINEERING  
KOLLAM, KERALA 691 005  
DEPARTMENT OF CIVIL ENGINEERING

TEST REPORT OF FLEXURAL STRENGTH OF CONCRETE BEAM SPECIMENS (As per IS. 516 - 1999)

Specimen Supplied by: Materials Engineering, Path-Bel JV, Project Office, Adoor 691 528 From Site: KSTP-I

Ref. Letter No.: Path-Bel/Q.C Testing /06/11/25 dt. 1-12-2008

Sl. No.	Identification Mark	Size (mm)	Date of		Age of Specimen (Days)	Curing Condition	Span Length (mm)	Maximum Load (kN)	Flexural Strength (MPa)	Remarks
			Casting	Testing						
1	C7	100 x 100 x 500	25-11-08	29/12/08	28	Good	400	9.469	3.788	/
2	C8	100 x 100 x 500	25-11-08	23/12/08	28	Good	400	10.264	4.106	
3	C9	100 x 100 x 500	25-11-08	23/12/08	28	Good	400	10.264	4.106	
4	F7	100 x 100 x 500	25-11-08	23/12/08	28	Good	400	10.661	4.264	
5	F8	100 x 100 x 500	25-11-08	23/12/06	28	Good	400	10.529	4.212	
6	F9	100 x 100 x 500	25-11-08	23/12/08	28	Good	400	10.330	4.132	

Staff member in charge of test

*[Signature]*  
Dr. S. Suresh

Head of the Department of Civil Engineering

*[Signature]*  
SMA Path

**National INSTITUTE OF TECHNOLOGY, HAMIRPUR (H.P.)**

**April, 10, 2008**

**Sub: Improvement of flexure strength of concrete – Regarding**


To  
EXECUTIVE ENGINEER (Civil),  
HIMURJA

Dear Sir

Ms. Tashi India Ltd. Nagpur supplied us 'Plast Fibre Fabricated Polypropylene Fibres for testing the flexure strength of concrete after the addition of these fibres. We tested the flexure strength of M-20 concrete with and without these fibres. The result indicated about 20% increase in flexure strength of concrete after the addition of plast fibres. The same may be true for other properties of concrete Viz. permeability, Modulus of elasticity etc.

In view of this improvement in flexure strength, the use of these fibres may be quite useful in the construction of hydraulic structures particularly, civil works of hydro-electric plants.

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RL Sharma, Professor  
Department of Civil Engineering,  
NIT Hamirpur (H.P.)

**DEPARTMENT OF CIVIL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (HP).**

**Subject:-** Testing of flexural strength of M-20 Concrete with and without plast fibers.

Material used for concrete Mix M-20

Sample No..01

Cement	Aggregate		Sand	Water
	20 mm	10 mm		
360 kg/cu.m	1041.00 kg/cu.m.	347 kg/cu.m.	694 kg/cu.m.	187.5 lt/cu.m

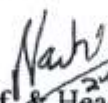
Mix proportion: 1:1.92 :3.85

Sample No.02

Cement	Aggregate		Sand	Water	Plast fiber having length 6 mm, 12 mm, 20 mm used
	20 mm	10 mm			
360 kg/cu.m	1041.00 kg/cu.m.	347 kg/cu.m.	694 kg/cu.m.	187.5 lt/cu.m	125 gm/50 kg. cement

Mix proportion: 1:1.92 :3.85

  
OIC (Lab)

  
Prof. & Head  
24/03/08  
Deptt. Of Civil Engg.  
NIT, Hamirpur (HP).

**DEPARTMENT OF CIVIL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR (HP).**

Subject:- Testing of flexural strength of M-20 Concrete with and without plast fibers

**TEST RESULTS**

**Sample No. 01**

Description of sample	Identification of cubides	Date of casting	Date of testing	of	Flexural strength (kN)
Plain cement concrete cubide 10x10x50 cm M-20 ( 1:1.92 : 385) 1 cement :1.92 sand : 385 aggregate	1	13/3/2008	20.3.2008		12.5
	2	13/3/2008	20.3.2008		12.5
	3	13/3/2008	20.3.2008		13.0

**Sample No. 02**

Description of sample	Identification of cubides	Date of casting	Date of testing	of	Flexural strength (kN)
Fiber Mix cement concrete cubide 10x10x50 cm M-20 ( 1:1.92 : 385) 1 cement :1.92 sand : 385 aggregate 12.5 gm fibre/5 kg cement	4	13/3/2008	20.3.2008		14.5
	5	13/3/2008	20.3.2008		15.0
	6	13/3/2008	20.3.2008		15.5

*AS*  
OIC (Lab)

*Nahi*  
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