

技 術 資 料

TECHNICAL BULLETIN

- 東レプラスチック光ファイバ -
- TORAY POLYMER OPTICAL FIBER -

PJU-FB1000

東レ株式会社
Toray Industries, Inc.

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注意:

これは技術資料です。本記載のデータは正確ですが、製品を保証するものではありません。また、本製品をもとにした2次製品とは特性の異なる場合があります。

ATTENTION:

This is technical bulletin; the data herein is accurate as regards our product, but no warranty. There is a possibility that data of their product made of our product are different from the data herein.

SPECIFICATIONS

PRODUCT CODE : PJU-FB1000

I T E M					UNIT	SPECIFICATIONS		
						MIN.	AVE.	MAX.
STRUCTURE	CABLE	CORD	FIBER	CORE MATERIAL	-	POLYMETHYL METHACRYLATE		
				CORE DIAMETER	μ m	935	980	1025
				CLADDING MATERIAL	-	FLUORINATED POLYMER		
				CLADDING DIAMETER	μ m	955	1000	1045
				NUMERICAL APERTURE	-	-	0.63	-
			NUMBER OF FIBER		FIBERS	-		
			SHEATH MATERIAL		-	-		
			SHEATH COLOR		-	-		
			CORD DIAMETER		mm	-	-	-
			CORD WIDTH		mm	-	-	-
		TENSIONMEMBER		-	-			
		JACKET MATERIAL		-	-			
		JACKET COLOR		-	-			
		CABLE DIAMETER		mm	-	-	-	
AVAILABLE TEMPERATURE RANGE PERMANENT USE						-55	-	85
OPTICAL PROPERTIES			ATTENUATION (at 650nm)		dB/m	-	-	0.15
PHYSICAL PROPERTIES			TENSILE STRENGTH (YIELD POINT)		N	58	-	-
			ALLOWABLE BENDING RADIUS		mm	9	-	-

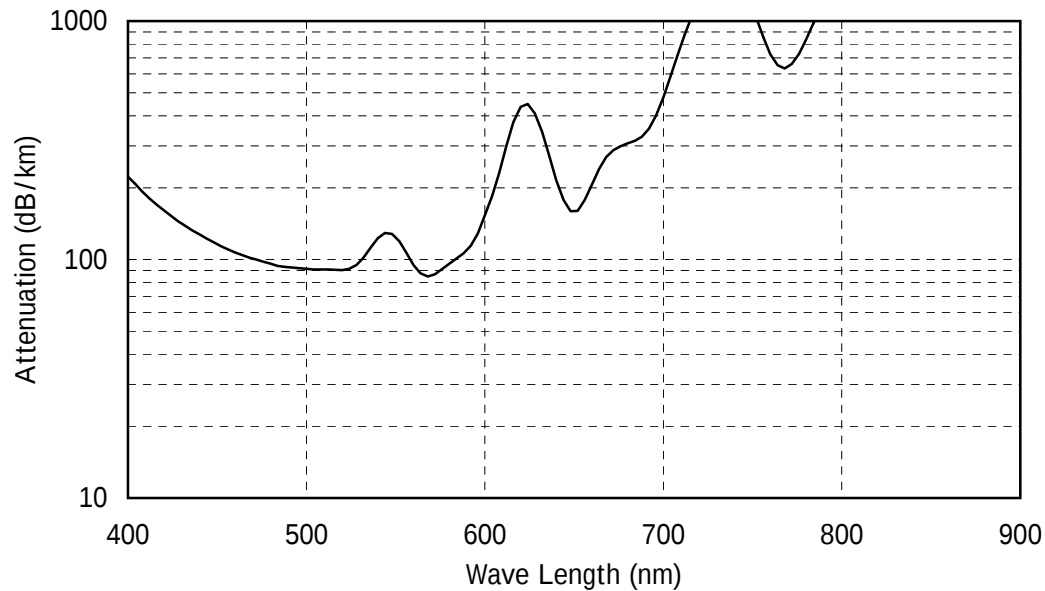
SF03271-2

1.(1)透光性 (SPECTRAL ATTENUATION)

< サンプル名 (Product Code) >

PJU - FB1000

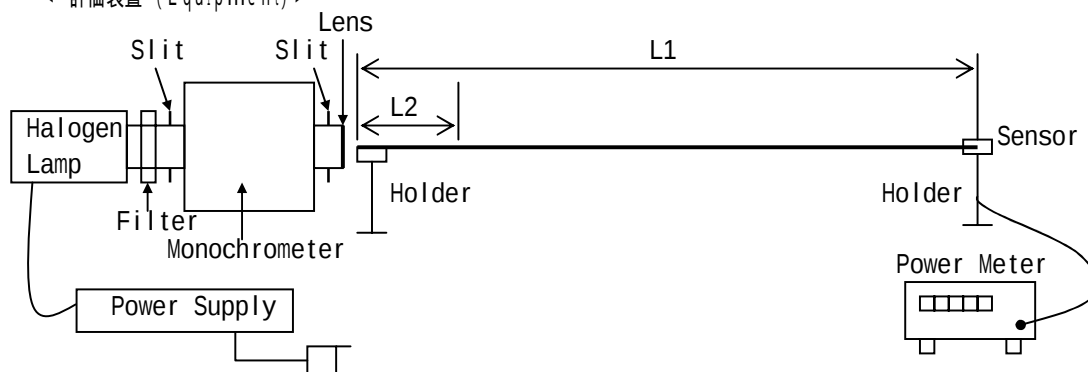
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Measuring Method : Cut Back Method (30m/2m)
Temperature : 25 (R.T.)
Light Source : Halogen Lamp
Launch NA : 0.25

< 評価装置 (Equipment) >



$$\text{Attenuation Loss (dB/m)} = (P1 - P2) / (L2 - L1)$$

L1, L2 : Sample Length (m)

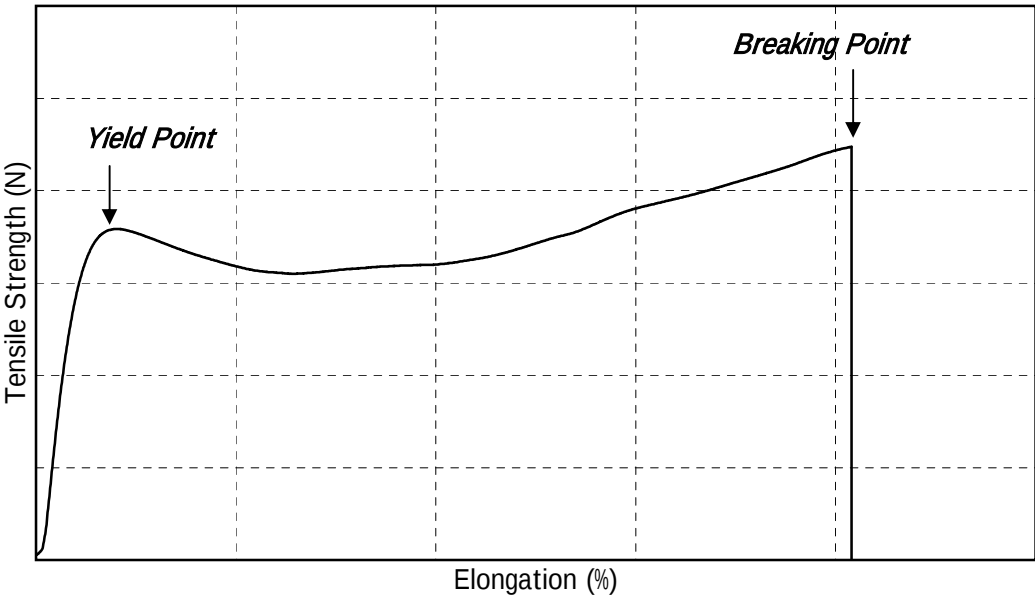
P1 : Transmitted Light Power at Cord Length L1 (dBm)

P2 : Transmitted Light Power at Cord Length L2 (dBm)

< 特記 (Remarks) >

2.(1)引張強度 (TENSILE STRENGTH)

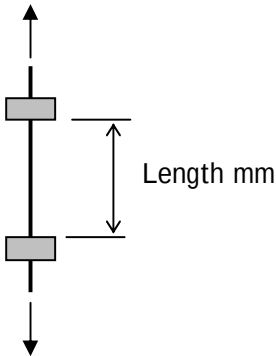
< サンプル名 (Product Code) > P J U - F B 1 0 0 0
< 評価結果 (Result) >



Yield Point	Strength (N)	70
	Elongation (%)	8.2
Breaking Point	Strength (N)	106
	Elongation (%)	108

< 評価条件 (Test Condition) >
Temperature : 25 (R.T.)
Sample Length : 200mm
Tensile Speed : 100mm/min

< 評価装置 (Equipment) >



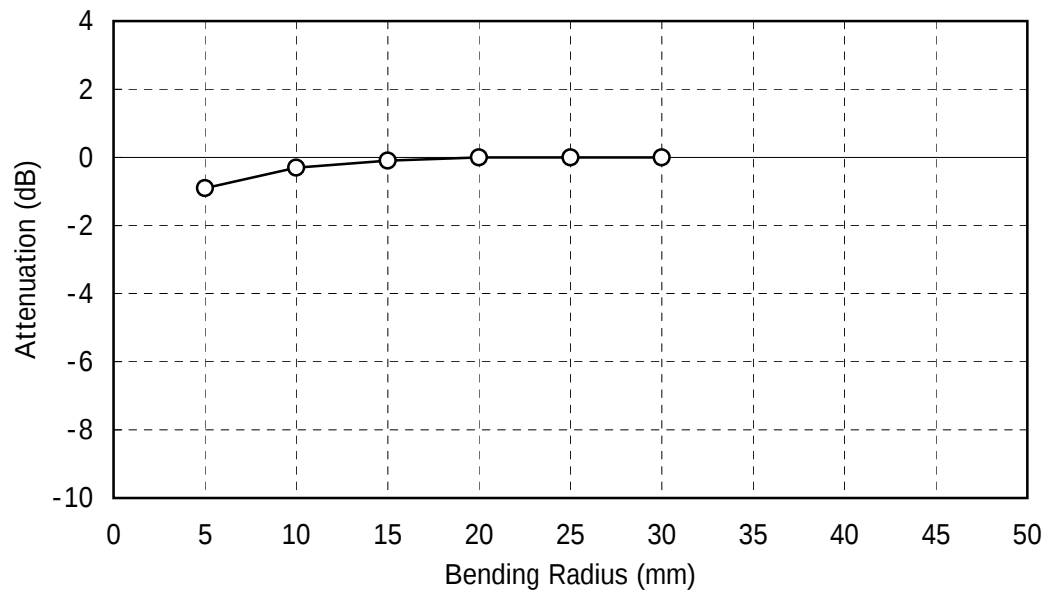
< 特記 (Remarks) >

2.(2)曲げ特性 (STATIC BENDING)

< サンプル名 (Product Code) >

PJU - FB1000

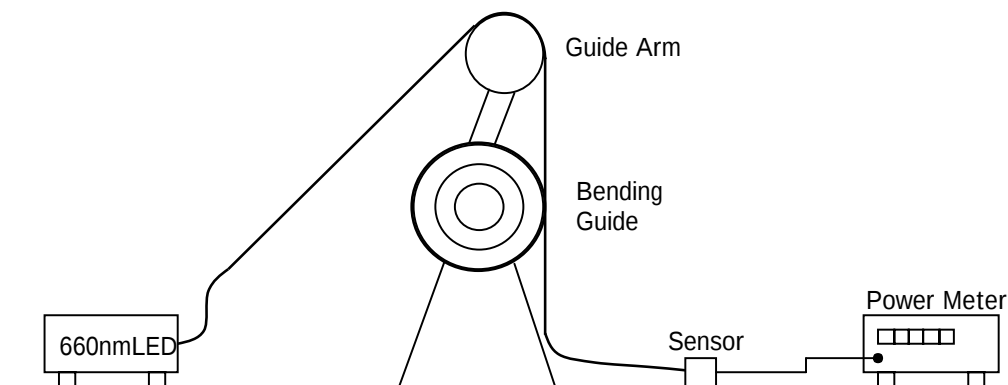
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25 (R.T.)
Light Source : 660nm LED
Bending Angle : 360°

< 評価装置 (Equipment) >



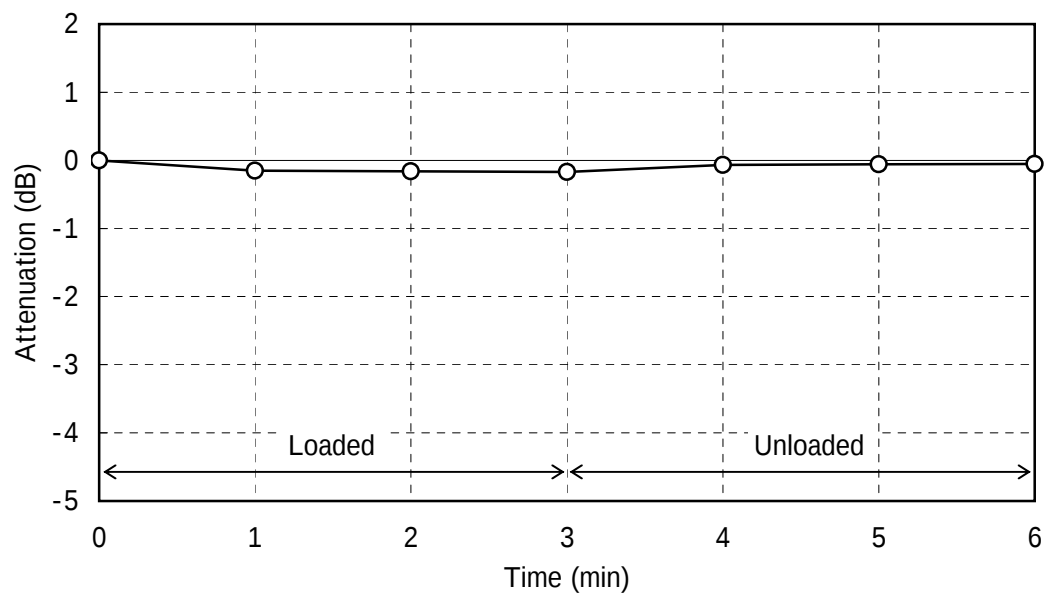
< 特記 (Remarks) >

2.(3)静置荷重特性 (COMPRESSIVE LOAD)

< サンプル名 (Product Code) >

PJU - FB1000

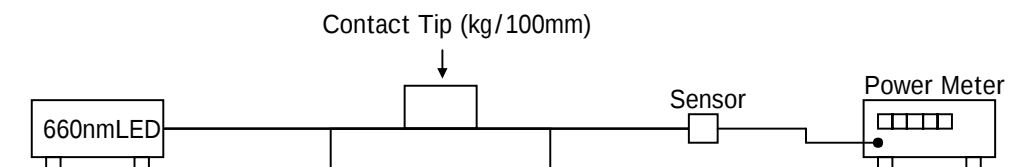
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25 (R.T.)
Light Source : 660nm LED
Weight : 105kg/100mm
Sample Length : 3m

< 評価装置 (Equipment) >



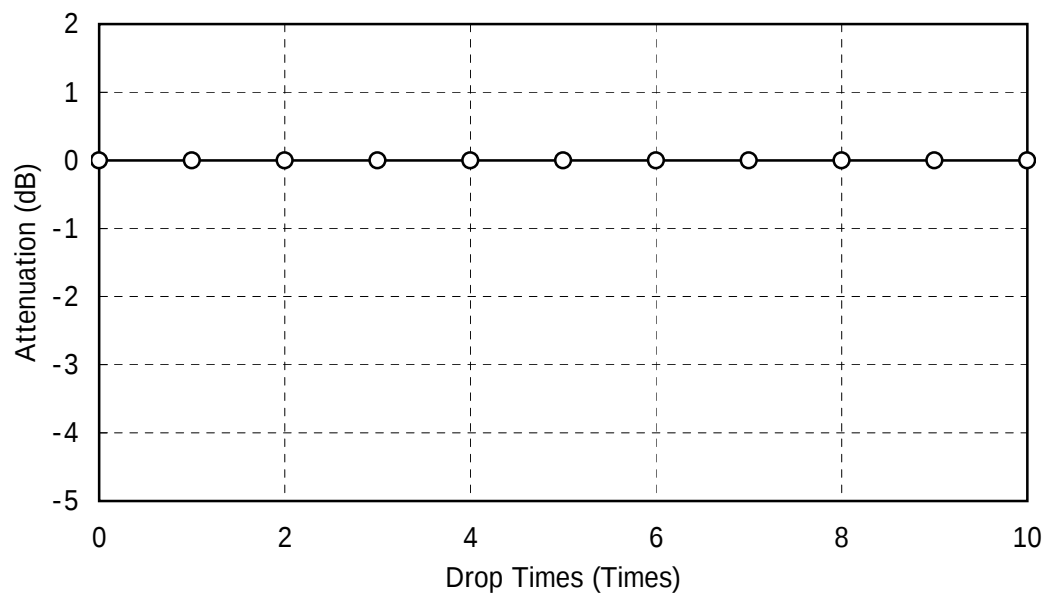
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2.(4)落下衝撃特性 (CYCLIC DROP IMPACTS)

< サンプル名 (Product Code) >

PJU - FB1000

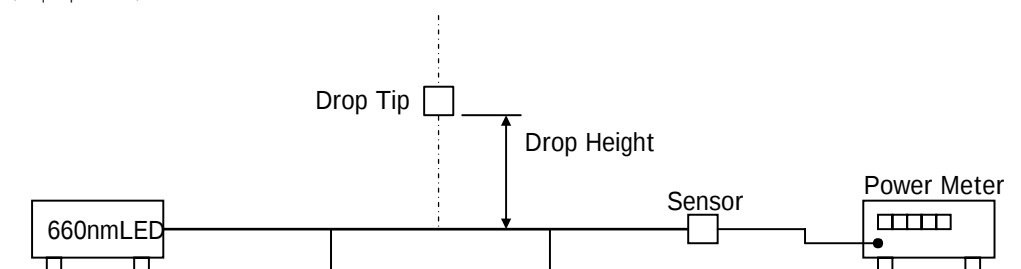
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25 (R.T.)
Light Source : 660nm LED
Drop Tip : 1kg/25mm ϕ
Drop Height : 10mm
Sample Length : 3m

< 評価装置 (Equipment) >



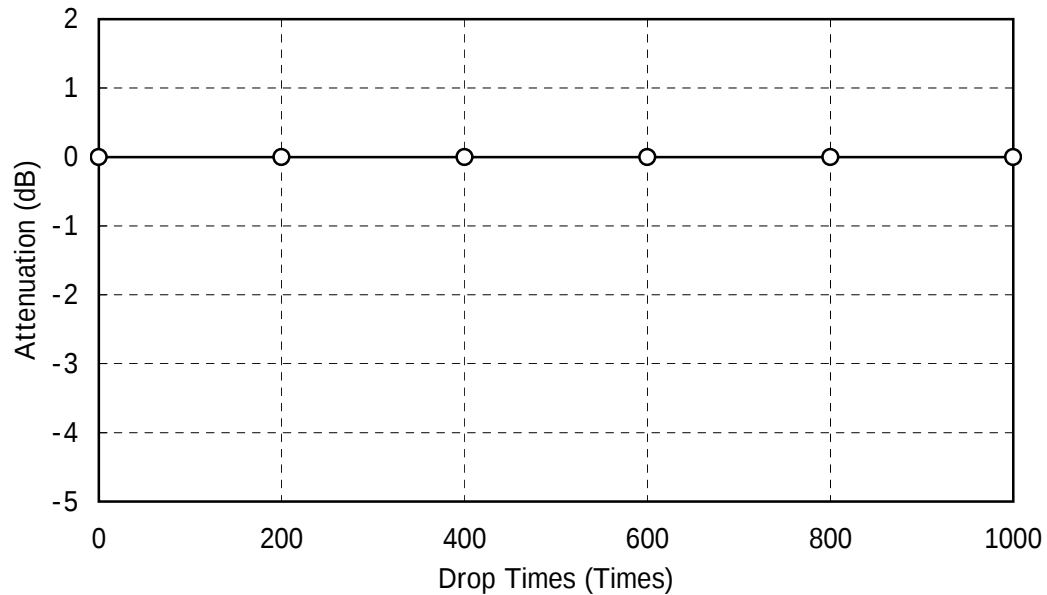
< 特記 (Remarks) >

2.(5)屈曲特性 (CYCLIC BENDINGS)

< サンプル名 (Product Code) >

PJU - FB1000

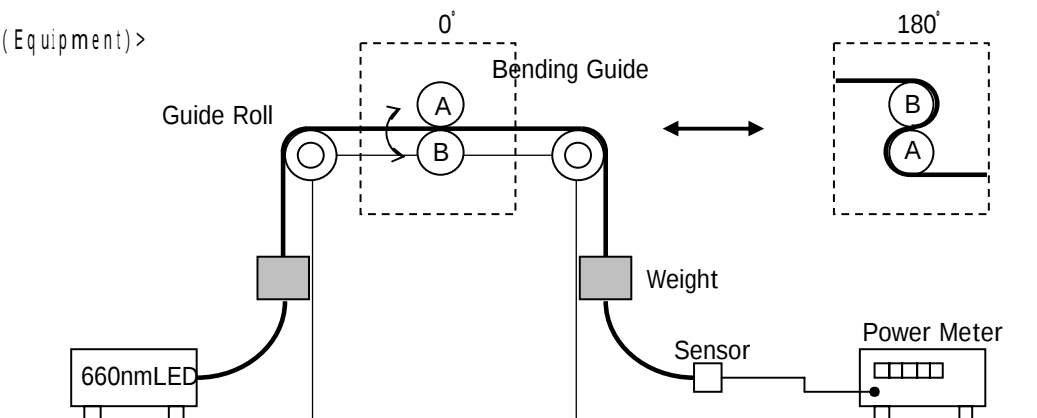
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25 (R.T.)
Light Source : 660nm LED
Bending Radius : 10mm
Bending Angle : 180° (One Side)
Weight : 525g × 2
Sample Length : 3m

< 評価装置 (Equipment) >



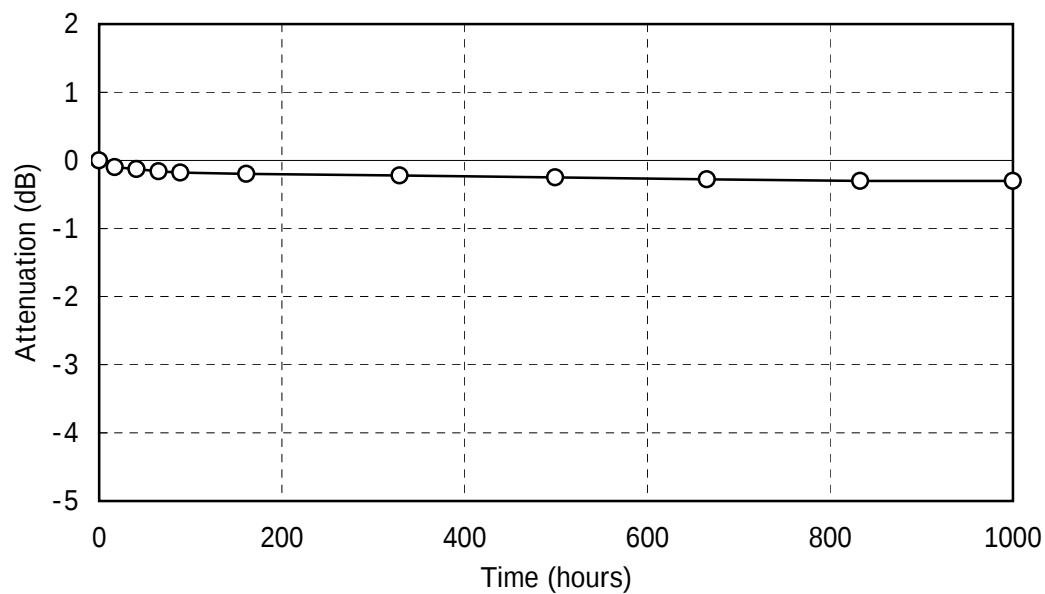
< 特記 (Remarks) >

3.(1)低温特性 (DURABILITY TO LOW TEMPERATURE)

< サンプル名 (Product Code) >

PJU - FB1000

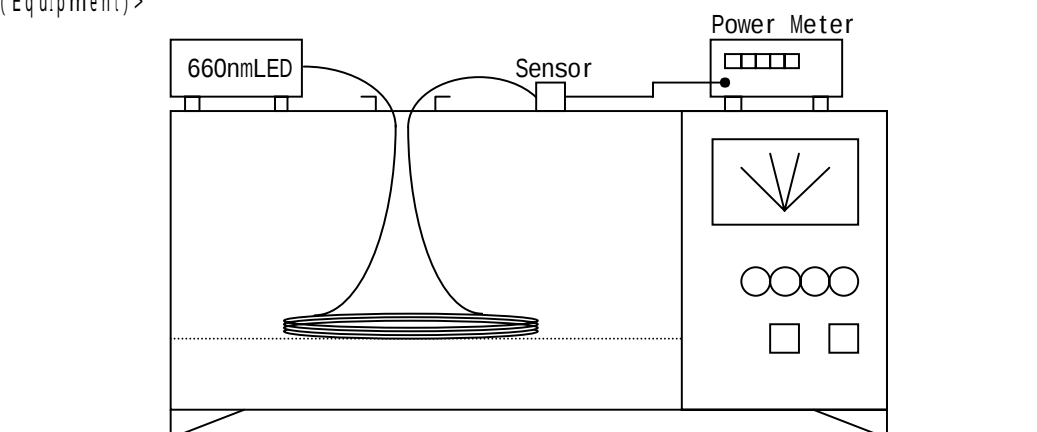
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : -55
Light Source : 660nm LED
Sample Length : 30m

< 評価装置 (Equipment) >



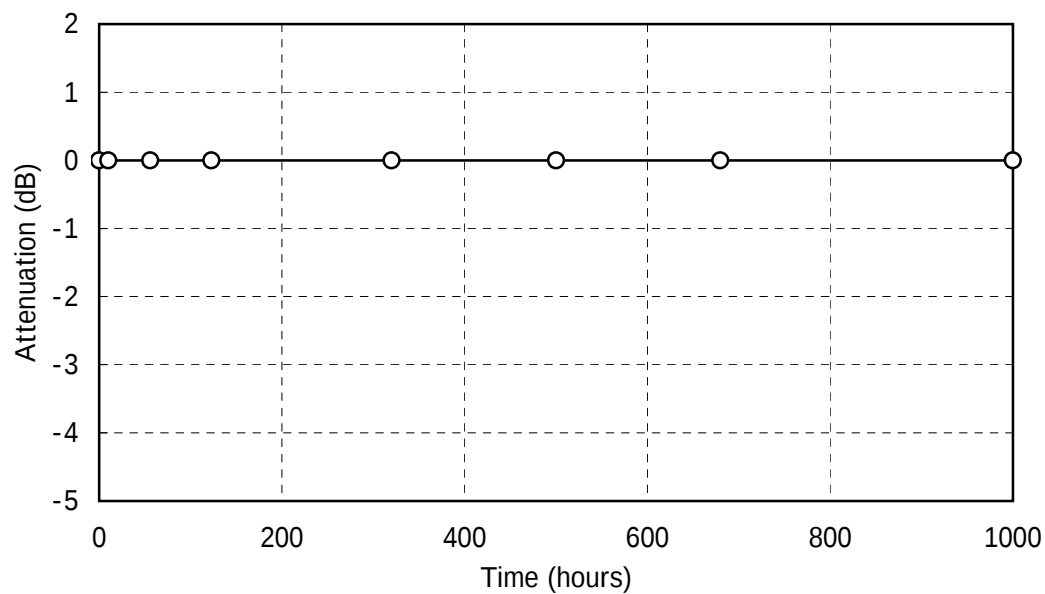
< 特記 (Remarks) >

3.(2)高温特性 (DURABILITY TO HIGH TEMPERATURE)

< サンプル名 (Product Code) >

PJU - FB1000

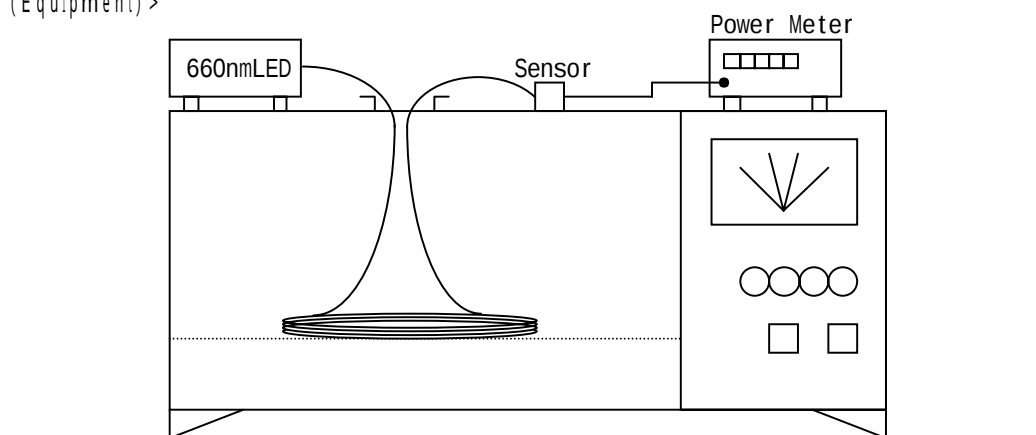
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 85
Light Source : 660nm LED
Sample Length : 30m

< 評価装置 (Equipment) >



< 特記 (Remarks) >

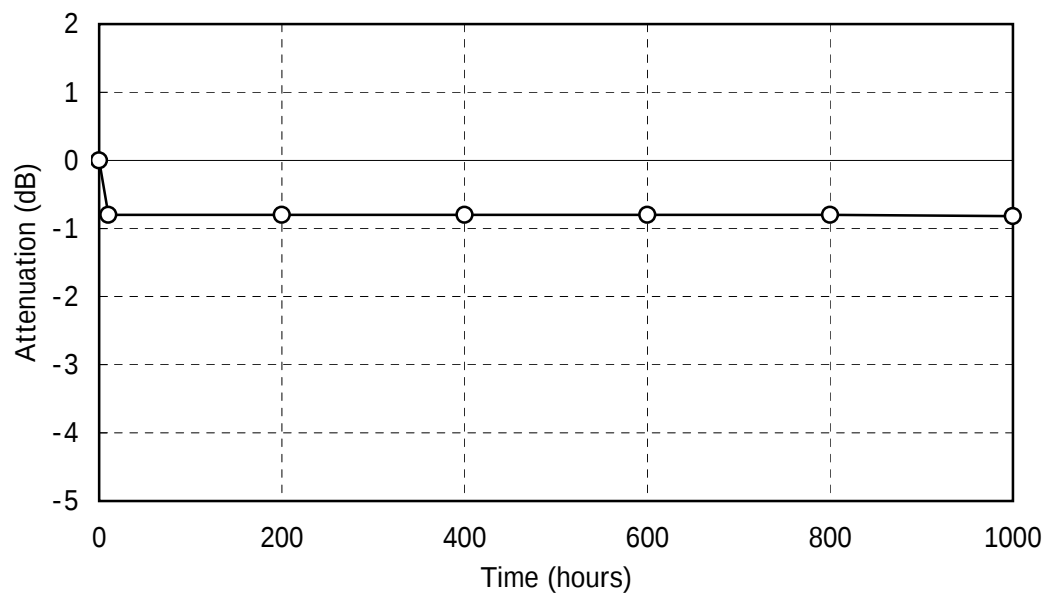
3.(3)高温湿熱特性 (DURABILITY TO HEATING

WITH MOISTURE)

< サンプル名 (Product Code) >

PJU - FB1000

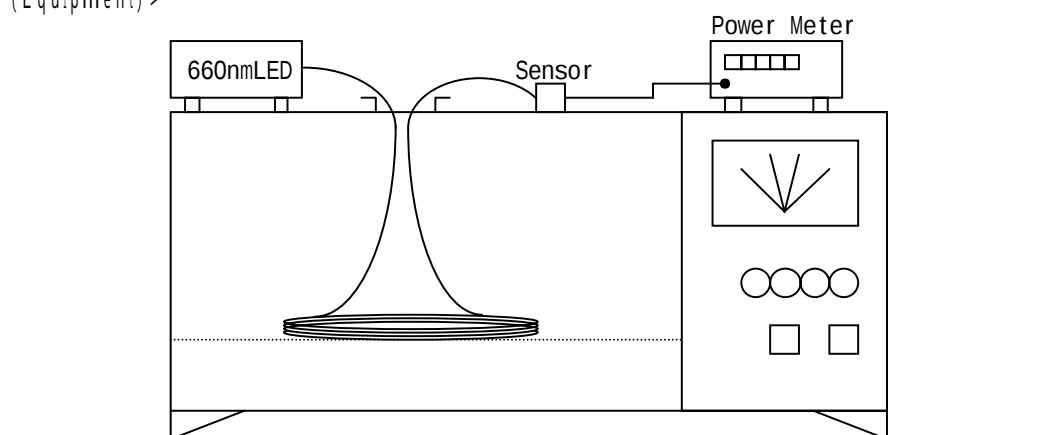
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 70
Relative Humidity : 90%
Light Source : 660nm LED
Sample Length : 30m

< 評価装置 (Equipment) >



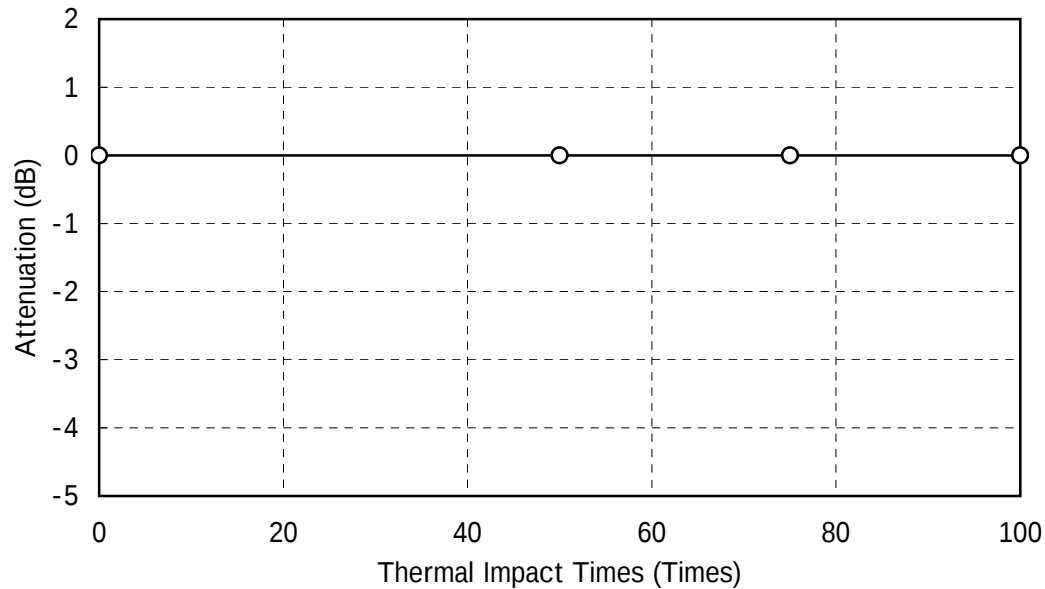
< 特記 (Remarks) >

3.(4)ヒートショック特性 (THERMAL IMPACTS)

< サンプル名 (Product Code) >

PJU - FB1000

< 評価結果 (Result) >

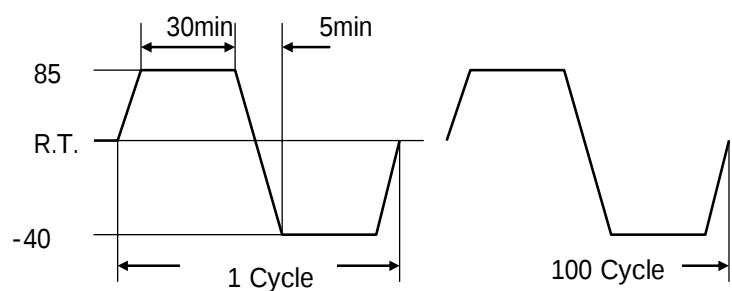


< 評価条件 (Test Condition) >

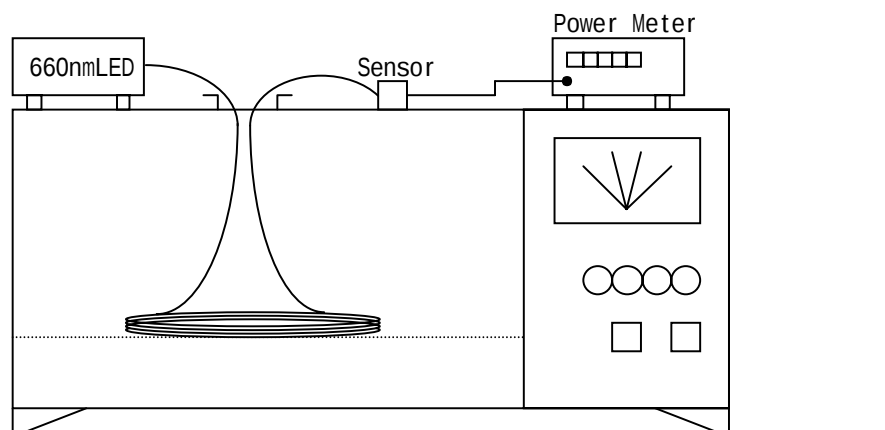
Light Source : 660nm LED

Sample Length : 20m

Temperature : →



< 評価装置 (Equipment) >



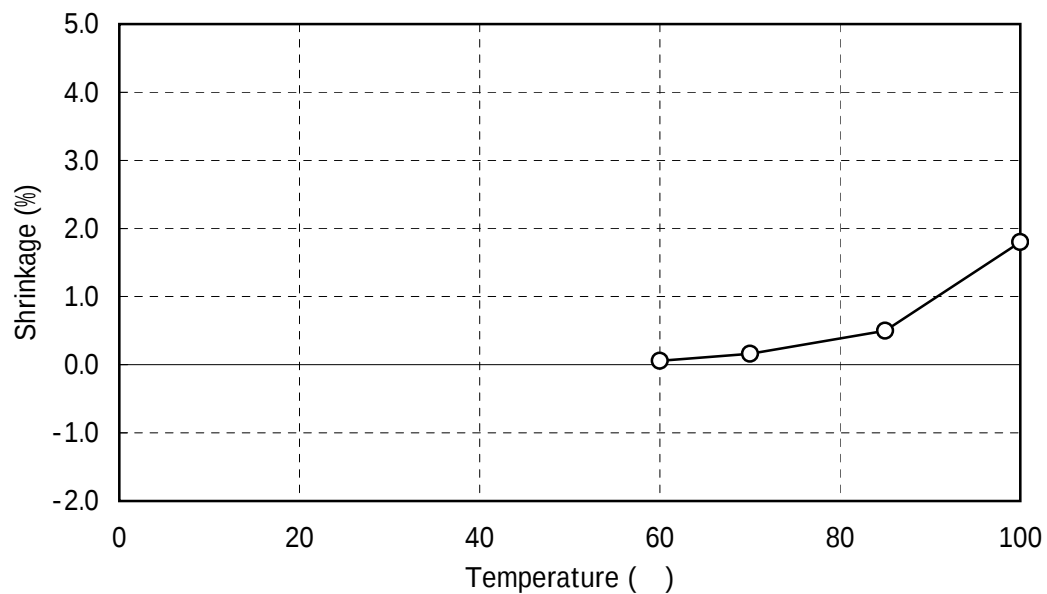
< 特記 (Remarks) >

3.(6)収縮率 (SHRINKAGE)

< サンプル名 (Product Code) >

PJU - FB1000

< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Treatment Time : 24h

Sample Length : 2m

$$\text{Shrinkage}(\%) = \left(1 - \frac{\text{Shrunk Cord Length after 24 hours}}{\text{Cord Length before Shrink}} \right) \times 100$$

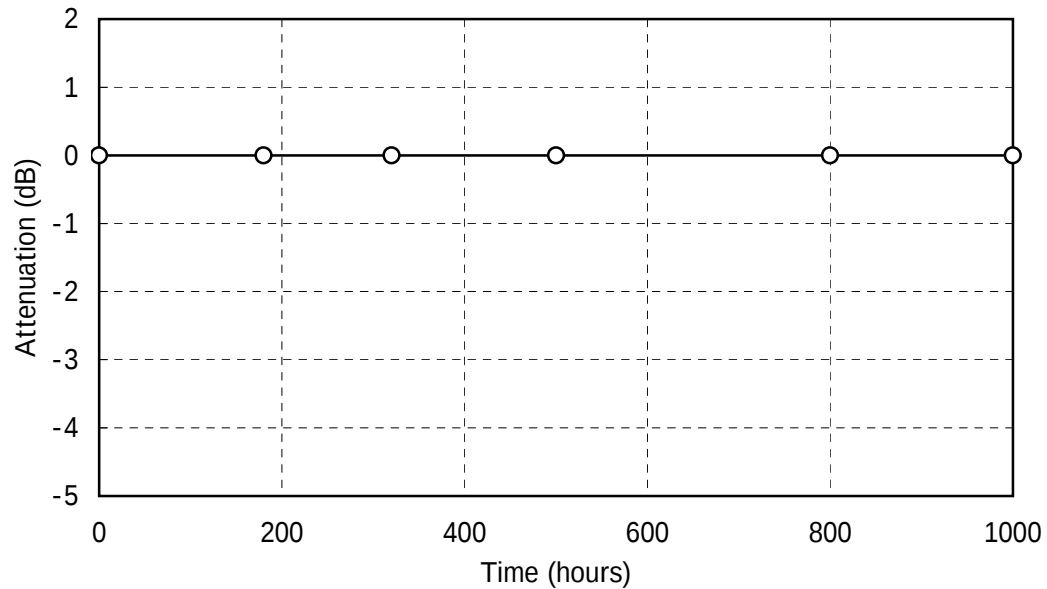
< 特記 (Remarks) >

4.(1)耐薬品性 (CHEMICAL RESISTANCE)

< サンプル名 (Product Code) >

PJU - FB1000

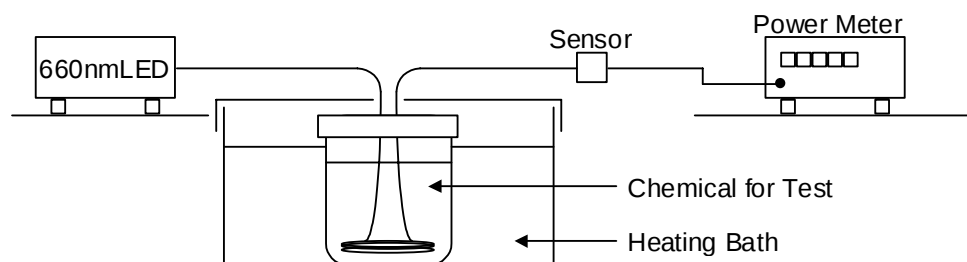
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 50
Light Source : 660nm LED
Chemical : Sulfuric Acid (34.6wt%)
Sample Length : 10m

< 評価装置 (Equipment) >



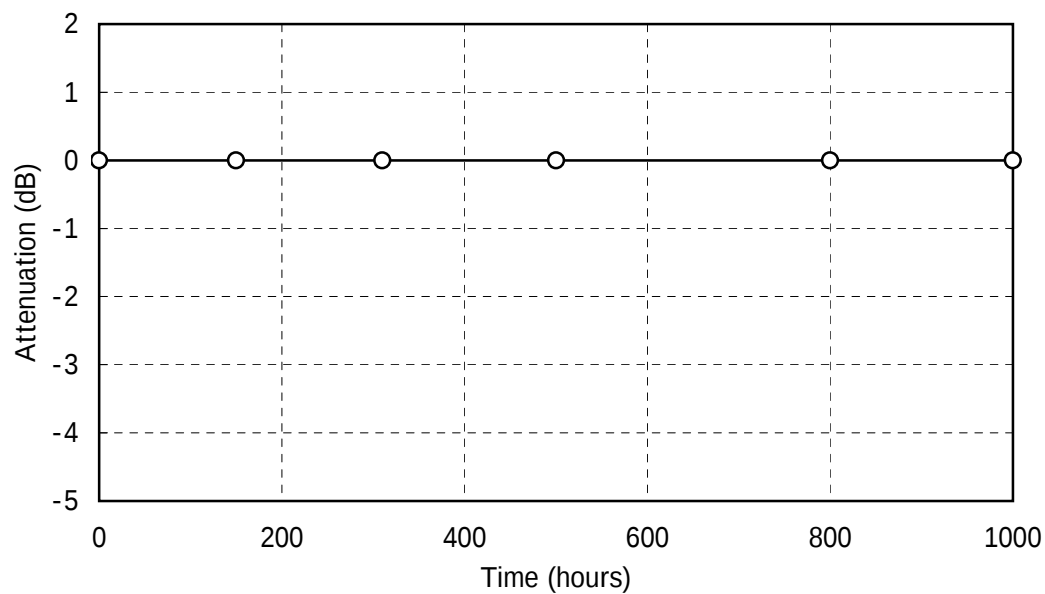
< 特記 (Remarks) >

4.(2)耐薬品性 (CHEMICAL RESISTANCE)

< サンプル名 (Product Code) >

PJU - FB1000

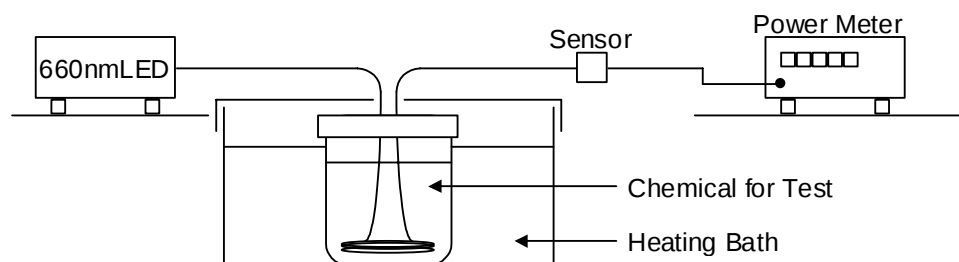
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 50
Light Source : 660nm LED
Chemical : Sodium Hydroxide (10wt%)
Sample Length : 10m

< 評価装置 (Equipment) >

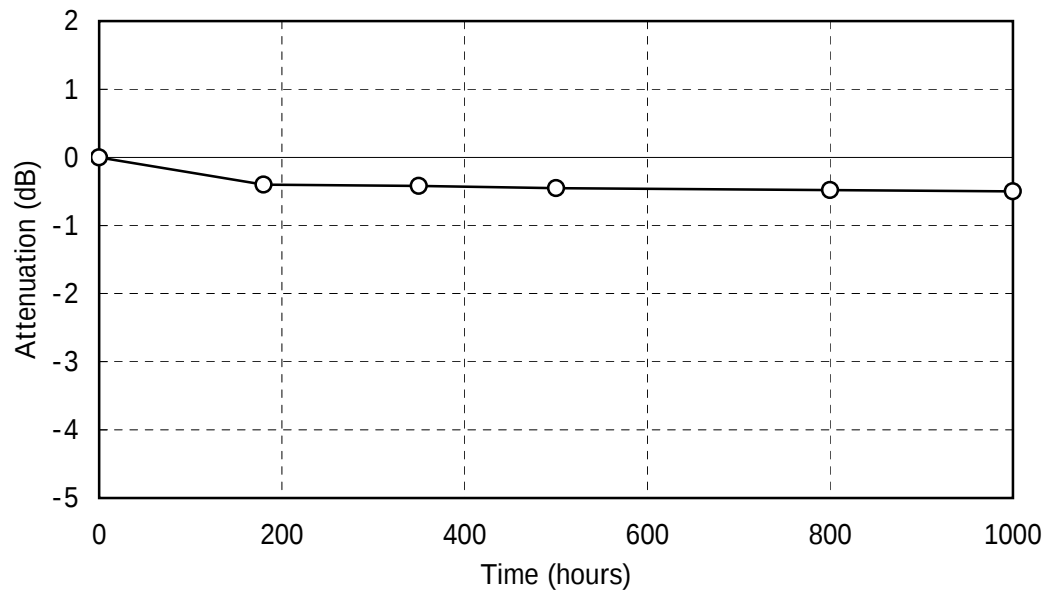


< 特記 (Remarks) >

4.(3)耐薬品性 (CHEMICAL RESISTANCE)

< サンプル名 (Product Code) > PJU - FB1000

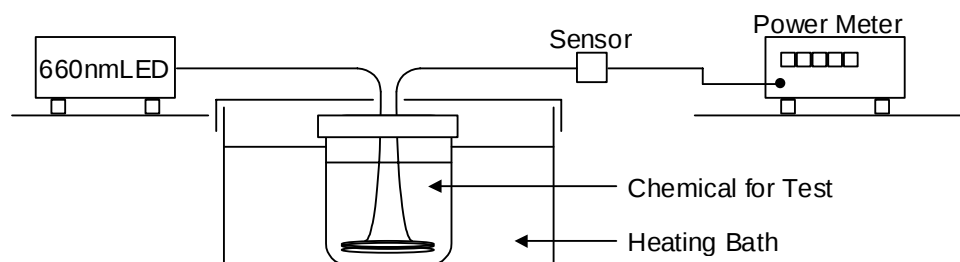
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 50
Light Source : 660nm LED
Chemical : Engin Oil
Sample Length : 10m

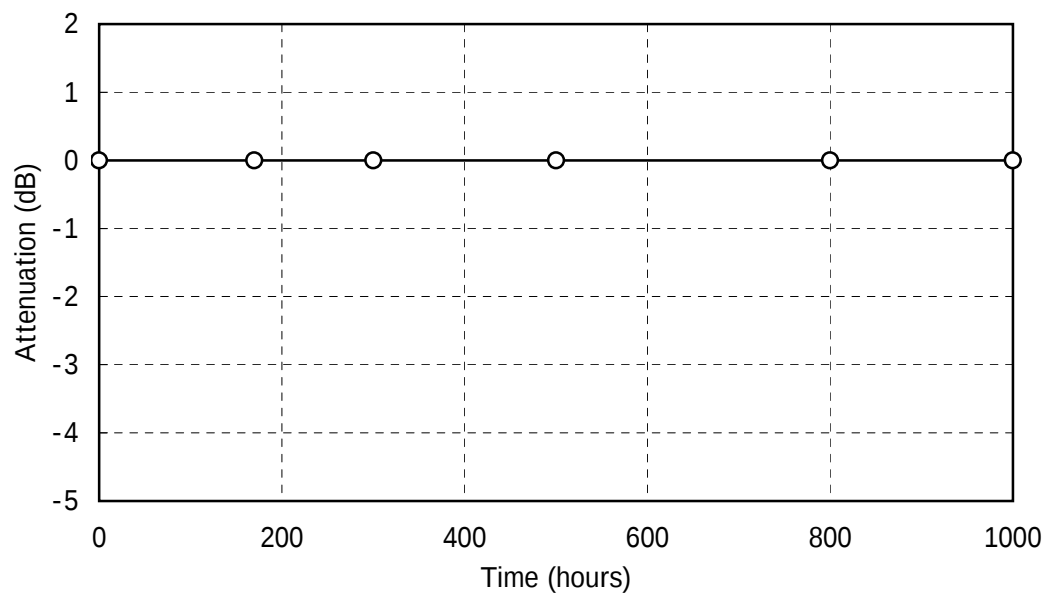
< 評価装置 (Equipment) >



< 特記 (Remarks) >

4.(4)耐薬品性 (CHEMICAL RESISTANCE)

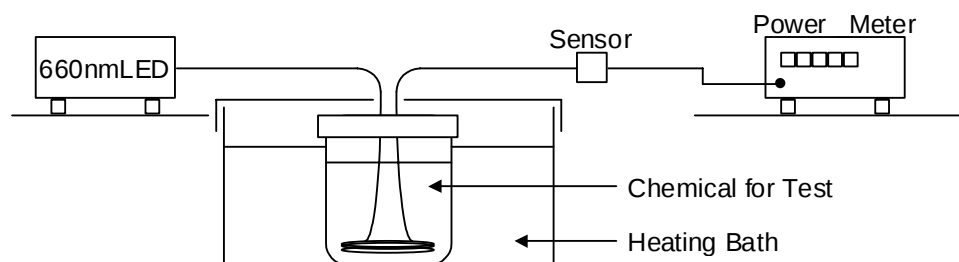
< サンプル名 (Product Code) > PJU - FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 50
Light Source : 660nm LED
Chemical : Sea Water (5wt%)
Sample Length : 10m

< 評価装置 (Equipment) >



< 特記 (Remarks) >