

技 術 資 料

TECHNICAL BULLETIN

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

PK-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 : PK-FB1000

ITEM					UNIT	SPECIFICATIONS		
						MIN.	AVE.	MAX.
STRUCTURE	CABLE	CORD	FIBER	CORE MATERIAL	-	POLYMETHYL METHACRYLATE		
				CORE DIAMETER	μ m	926	986	1046
				CLADDING MATERIAL	-	FLUORINATED POLYMER		
				CLADDING DIAMETER	μ m	940	1000	1060
				NUMERICAL APERTURE	-	-	0.5	-
			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					$^{\circ}$ C	-55
OPTICAL PROPERTIES			ATTENUATION (at 650nm)	dB/m	-	-	0.20	
PHYSICAL PROPERTIES			TENSILE STRENGTH (YIELD POINT)	N	-	-	-	
			ALLOWABLE BENDING RADIUS	mm	-	-	-	

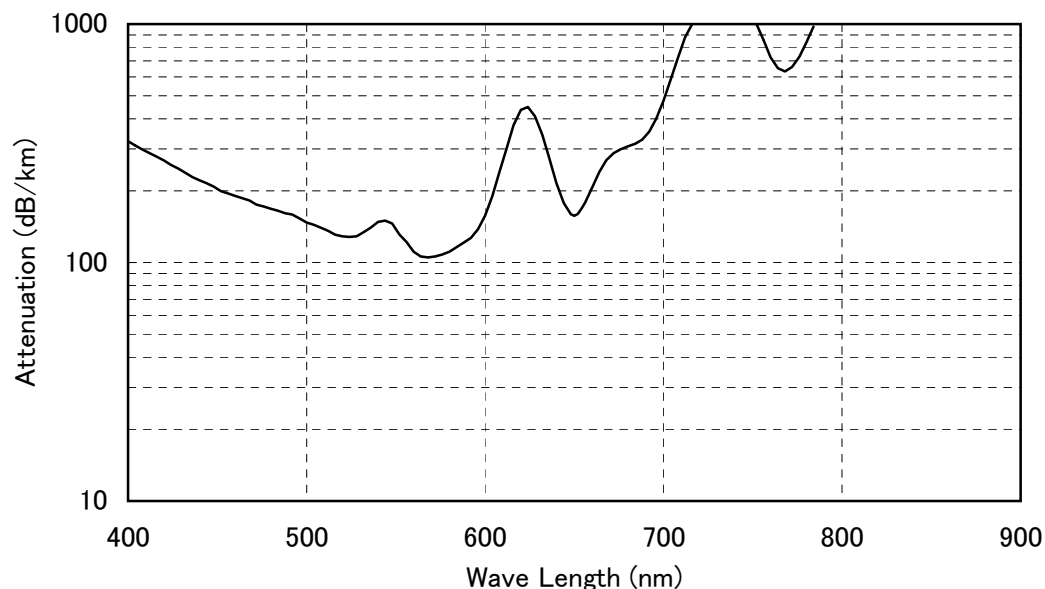
SC13221

1. (1)透光性 (SPECTRAL ATTENUATION)

< サンプル名 (Product Code) >

PK-FB1000

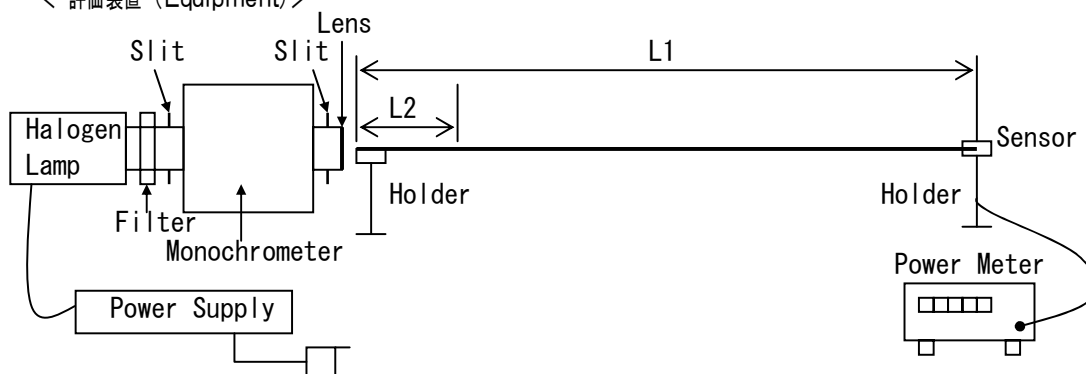
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Measuring Method : Cut Back Method (30m/2m)
 Temperature : 25°C (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)

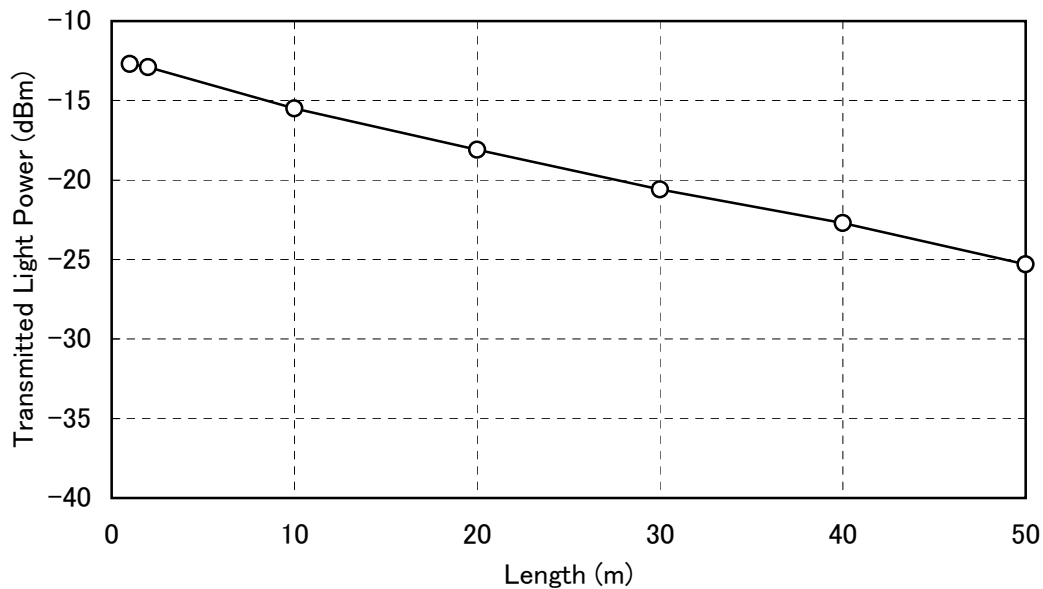
P1 : Transmitted Light Power at Cord Length L1 (dBm)

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

< 特記 (Remarks) >

1. (2)長さ依存性 (TRANSMITTED RATE BY LENGTH)

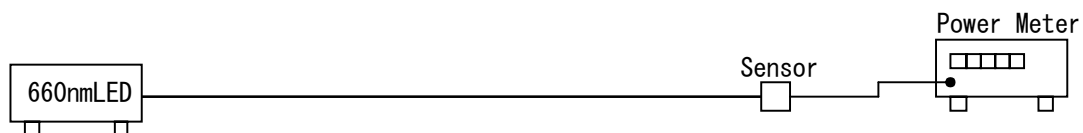
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< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25°C (R.T.)
Light Source : 660nm LED

< 評価装置 (Equipment) >



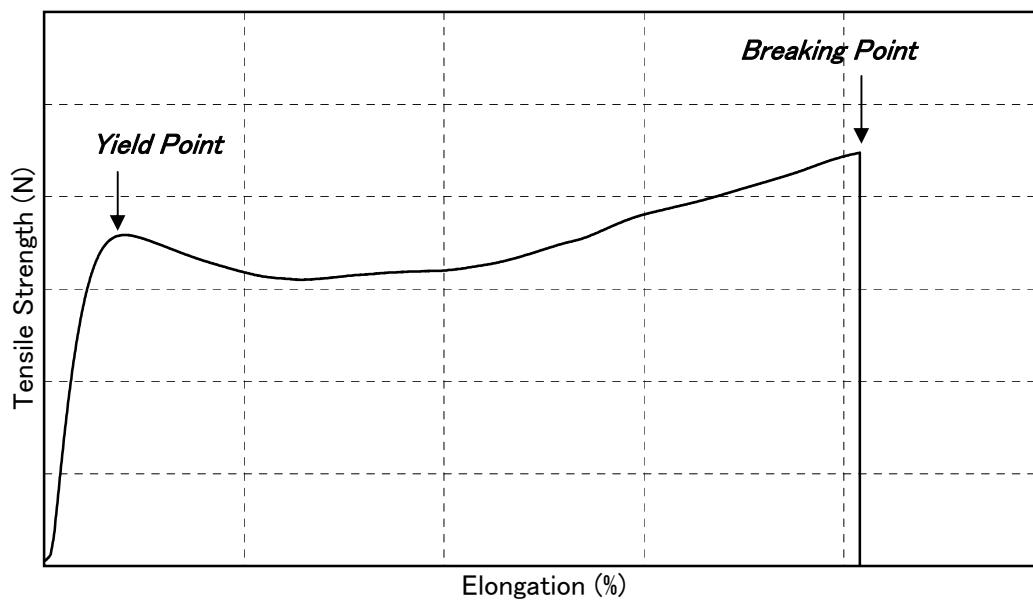
< 特記 (Remarks) >

2. (1)引張強度 (TENSILE STRENGTH)

< サンプル名 (Product Code) >

PK-FB1000

< 評価結果 (Result) >

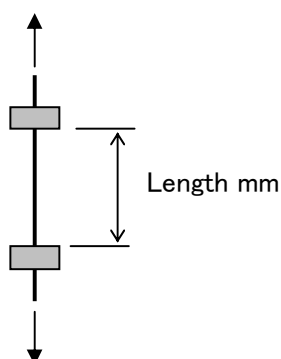


Yield Point	Strength (N)	68
	Elongation (%)	8
Breaking Point	Strength (N)	105
	Elongation (%)	99

< 評価条件 (Test Condition) >

Temperature : 25°C (R.T.)
Sample Length : 200mm
Tensile Speed : 100mm/min

< 評価装置 (Equipment) >



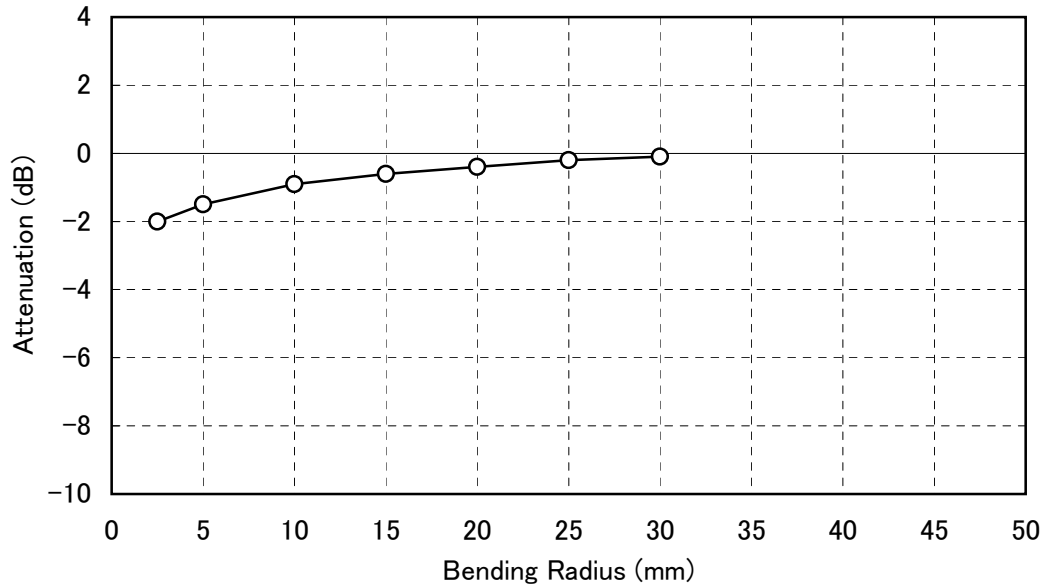
< 特記 (Remarks) >

2. (2) 曲げ特性 (STATIC BENDING)

< サンプル名 (Product Code) >

PK-FB1000

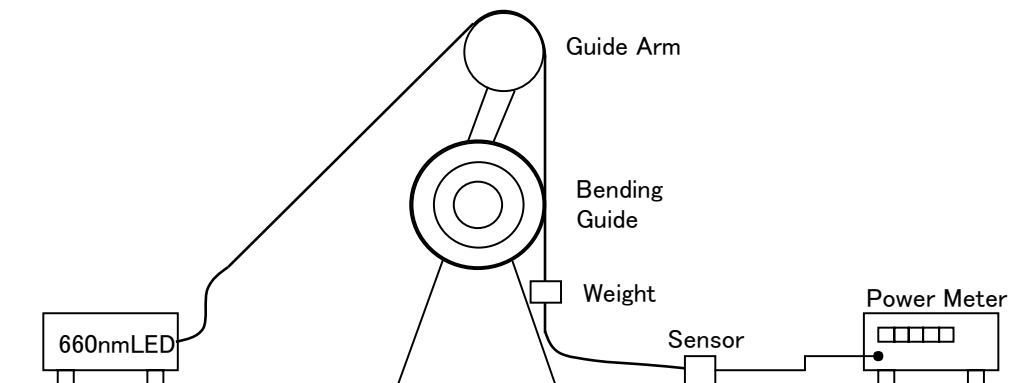
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25°C (R.T.)
Light Source : 660nm LED
Bending Angle : 360°
Weight : 400g

< 評価装置 (Equipment) >



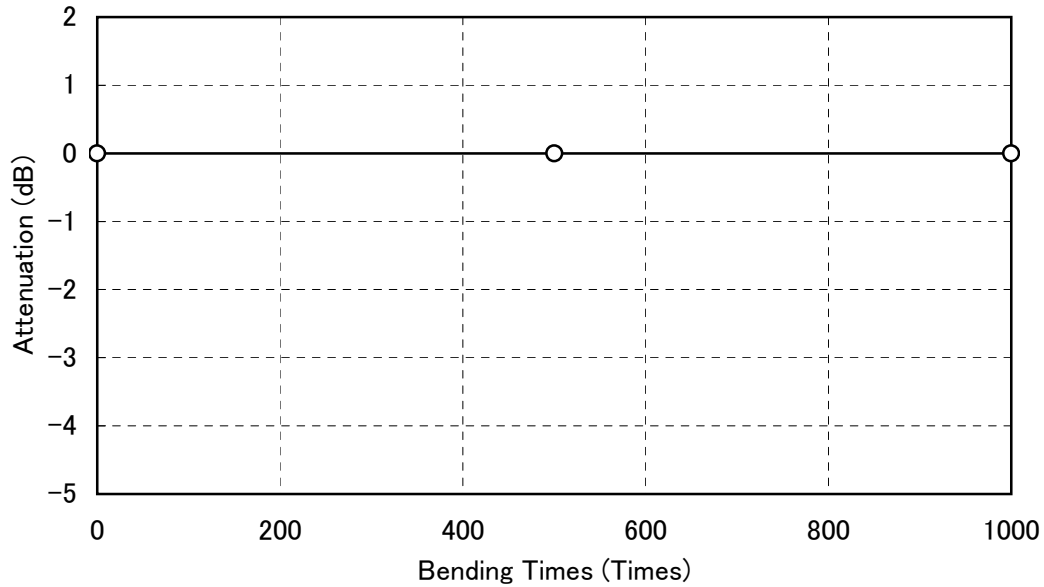
< 特記 (Remarks) >

2. (5) 屈曲特性 (CYCLIC BENDINGS)

< サンプル名 (Product Code) >

PK-FB1000

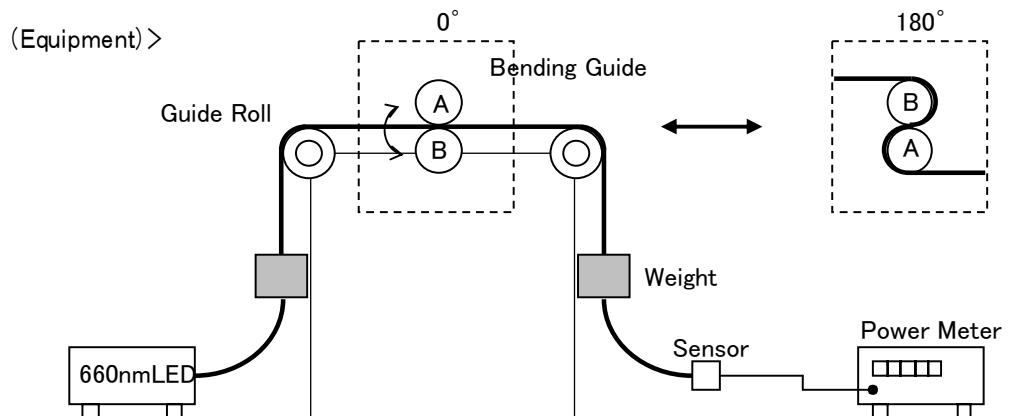
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25°C (R.T.)
 Light Source : 660nm LED
 Bending Radius : 5mm
 Bending Angle : 180° (One Side)
 Weight : 1000g × 2
 Sample Length : 3m

< 評価装置 (Equipment) >

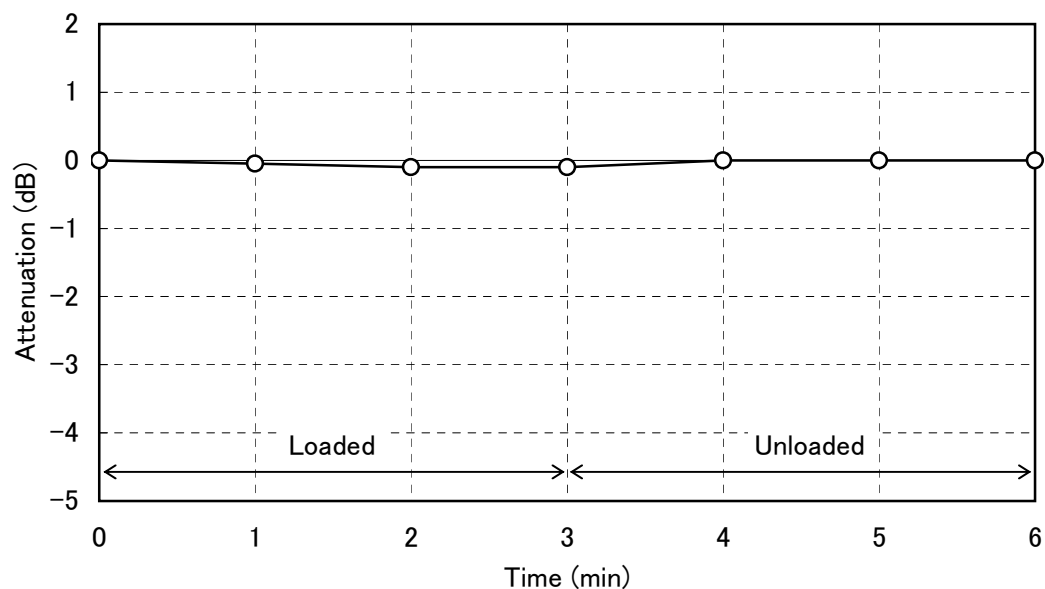


< 特記 (Remarks) >

2. (7)伸び特性 (ELONGATION)

< サンプル名 (Product Code) > PK-FB1000

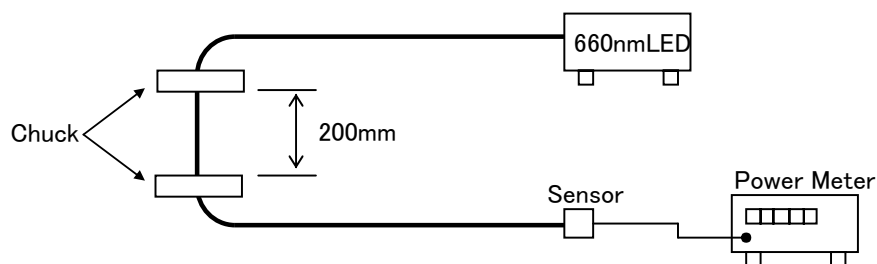
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 25°C (R.T.)
Light Source : 660nm LED
Elongation Load : 10%
Elongation Length : 200mm
Sample Length : 5m

< 評価装置 (Equipment) >

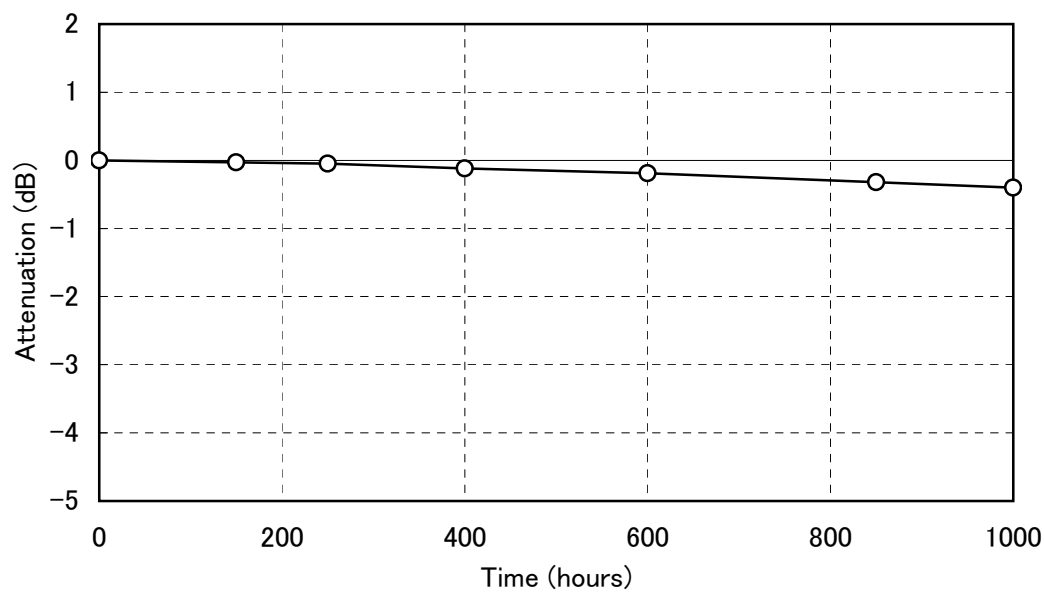


< 特記 (Remarks) >

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

< サンプル名 (Product Code) > PK-FB1000

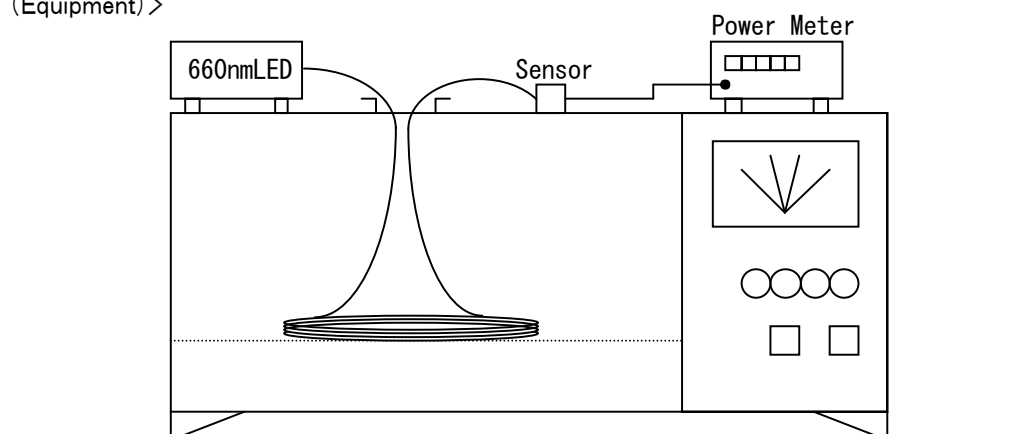
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

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

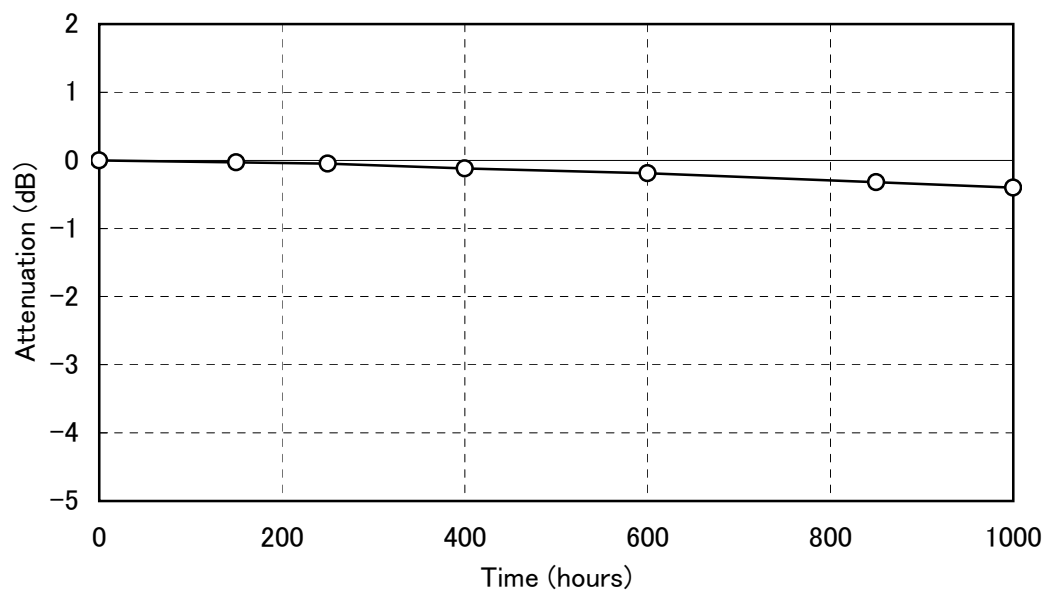
< 評価装置 (Equipment) >



< 特記 (Remarks) >

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

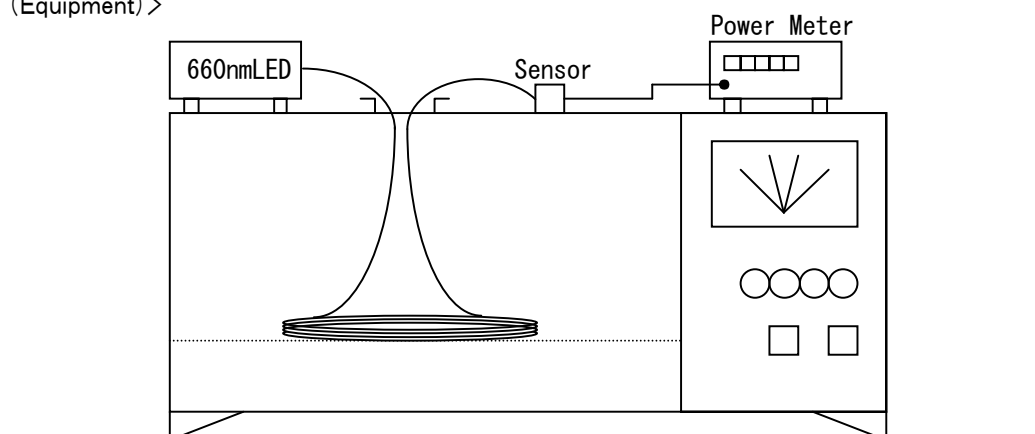
< サンプル名 (Product Code) > PK-FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 70°C
Light Source : 660nm LED
Sample Length : 30m

< 評価装置 (Equipment) >



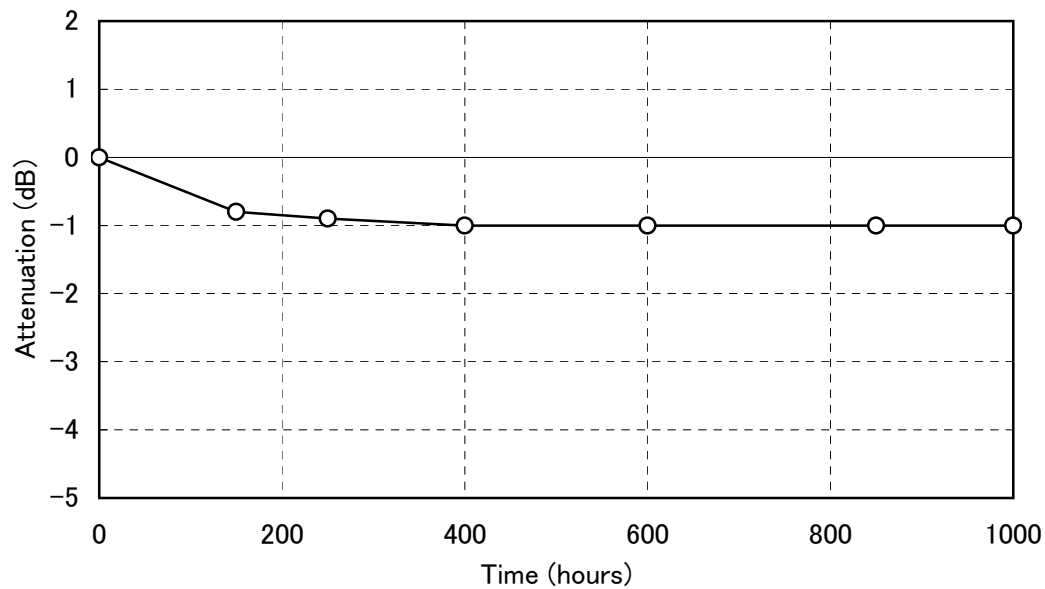
< 特記 (Remarks) >

3. (3) 高温湿熱特性 (DURABILITY TO HEATING WITH MOISTURE)

< サンプル名 (Product Code) >

PK-FB1000

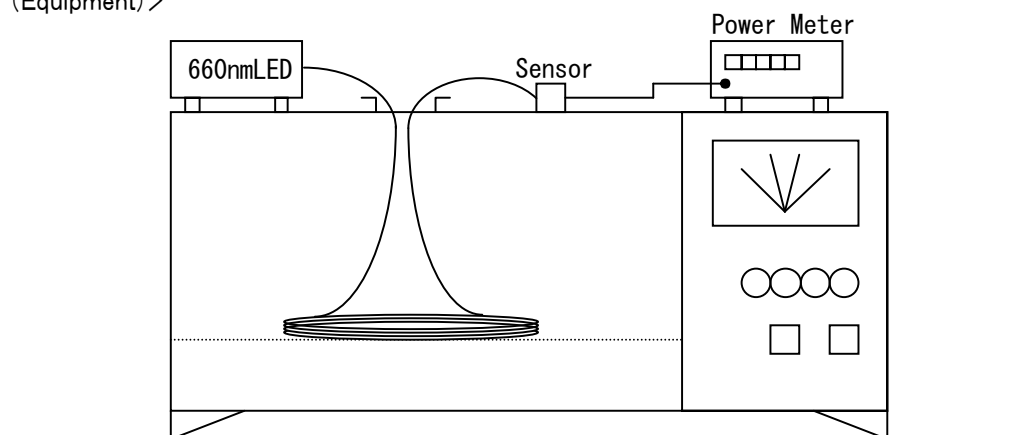
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Temperature : 60°C
Relative Humidity : 90%
Light Source : 660nm LED
Sample Length : 30m

< 評価装置 (Equipment) >



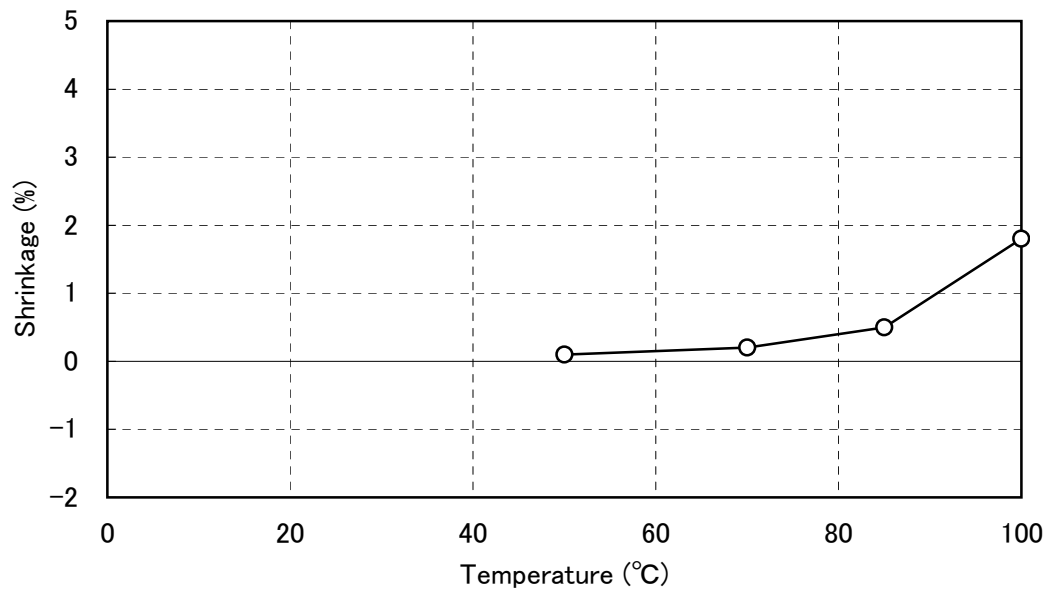
< 特記 (Remarks) >

3. (6)収縮率 (SHRINKAGE)

< サンプル名 (Product Code) >

PK-FB1000

< 評価結果 (Result) >



< 評価条件 (Test Condition) >

Treatment Time : 24h

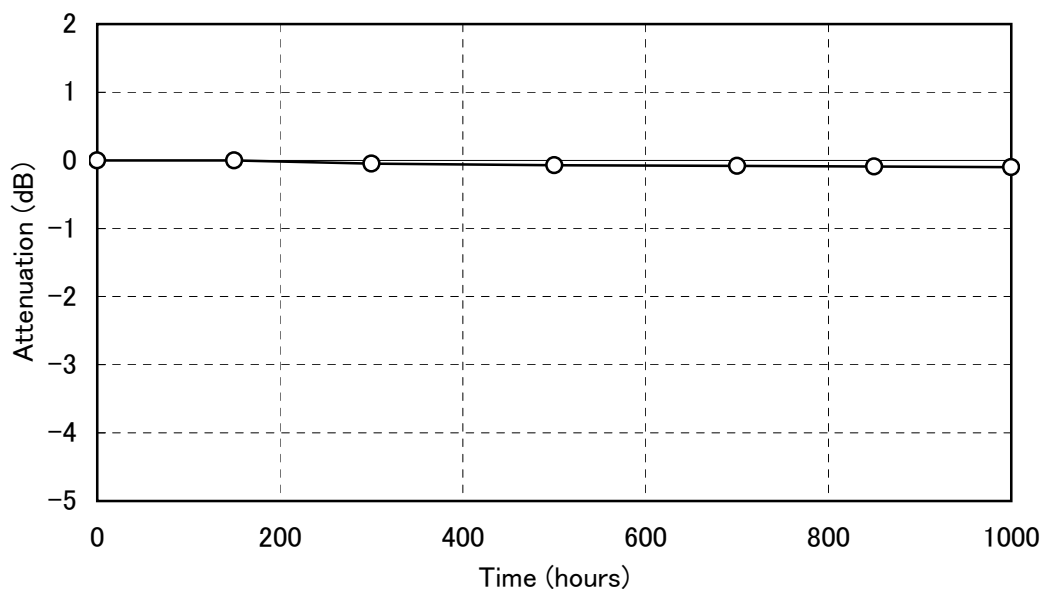
Sample Length : 2m

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

< 特記 (Remarks) >

4. (1)耐薬品性 (CHEMICAL RESISTANCE)

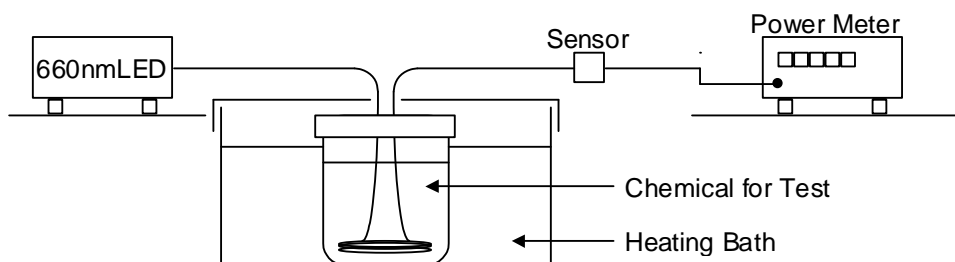
< サンプル名 (Product Code) > PK-FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

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

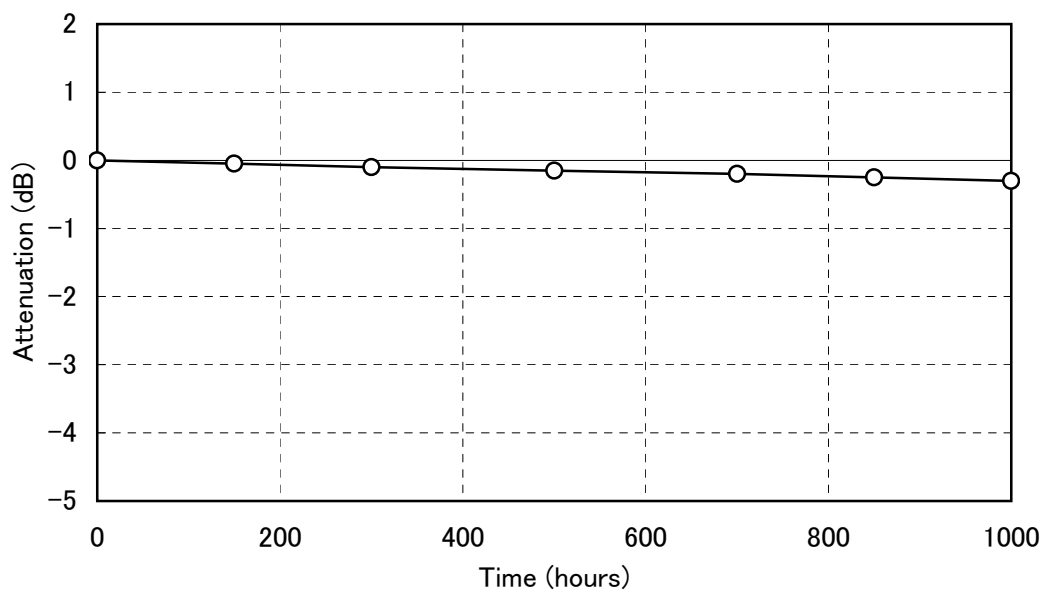
< 評価装置 (Equipment) >



< 特記 (Remarks) >

4. (2)耐薬品性 (CHEMICAL RESISTANCE)

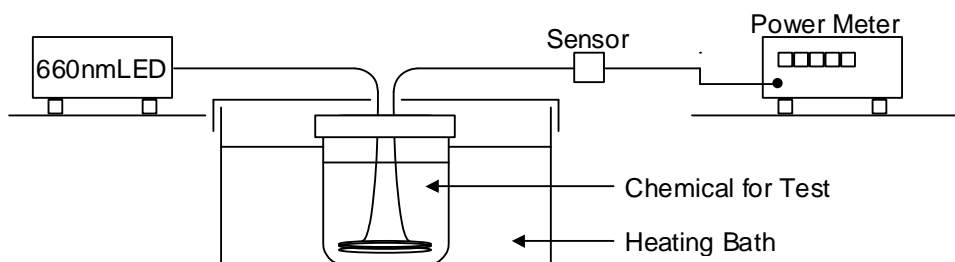
< サンプル名 (Product Code) > PK-FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

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

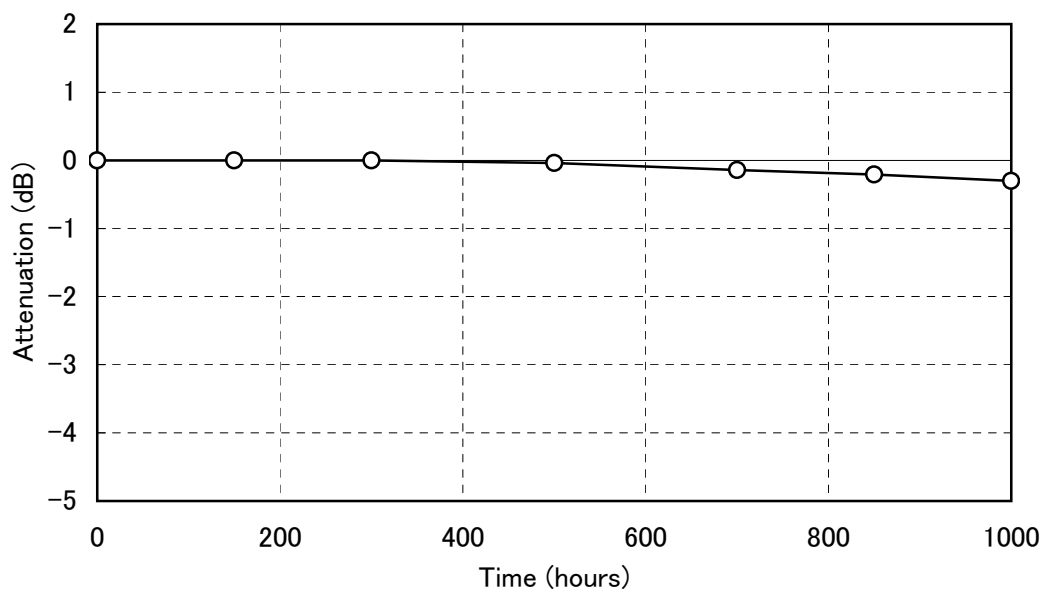
< 評価装置 (Equipment) >



< 特記 (Remarks) >

4. (3)耐薬品性 (CHEMICAL RESISTANCE)

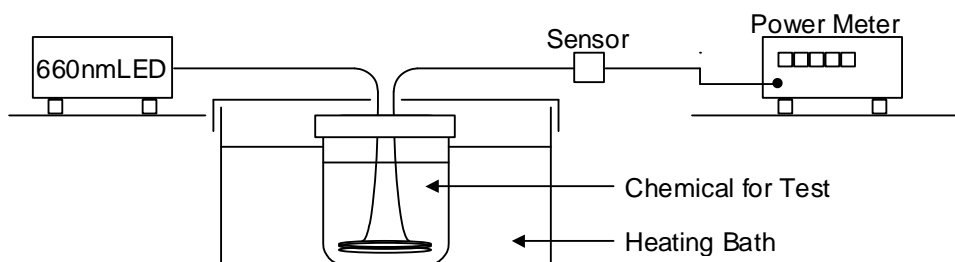
< サンプル名 (Product Code) > PK-FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

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

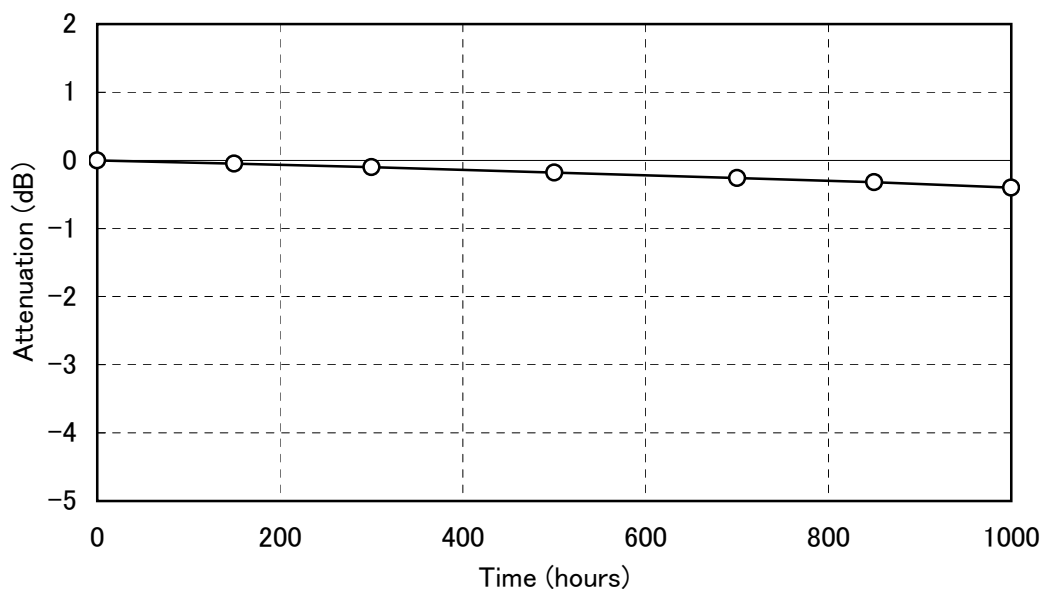
< 評価装置 (Equipment) >



< 特記 (Remarks) >

4. (4)耐薬品性 (CHEMICAL RESISTANCE)

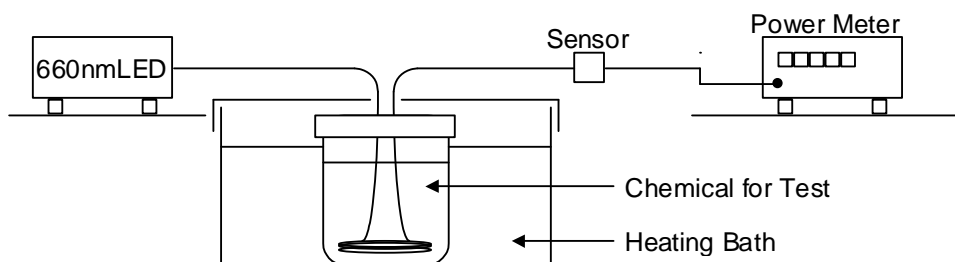
< サンプル名 (Product Code) > PK-FB1000
< 評価結果 (Result) >



< 評価条件 (Test Condition) >

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

< 評価装置 (Equipment) >



< 特記 (Remarks) >