FLEXCORE™

210 SERIES

STRANDED CABLE ASSEMBLIES

Systems and Test & Measurement applications will benefit from the **FlexCore™ Advantage** when requirements call for:

- **Ease of handling**
- **Mechanical reliability**
- **Repeatability**
- **Excellent connector retention**

And, with its 7-strand center conductor design, FlexCore™ **minimizes the increased attenuation** common to 19-strand designs.

FlexCore™ accommodates the need for installation flexibility, flex during use and handling, and maintaining calibration during sensitive RF measurements.

With **validated mechanical and electrical stability at more than 100K flexures**, the FlexCore™ 210 Series is the cable that engineers turn to when extended product lifecycle and RF performance stability is a prerequisite.

FEATURES	ADVANTAGES	BENEFITS
~ *7-Strand center conductor*	~ *Increased flexibility (over similar sized solid center conductor cables)* ~ *Minimized flexure-related performance degradation* ~ *Low attenuation (close to solid center conductor products)* ~ *Increased flex-life performance*	~ *Ease of installation in tight configurations* ~ *Stable electrically* ~ *Low lateral force on connectors* ~ *Reliability over lifetime*
~ *High performance, tape-wrapped PTFE dielectric and helically wrapped SPC shield*	~ *Enhanced phase stability*	~ *Improved system performance* ~ *Less frequent calibration* ~ *More precise measurements*

TELEDYNE
STORM MICROWAVE
Everywhereyoulook™

High value microwave and electronic interconnect solutions

www.teledynestorm.com

SPECIFICATIONS		FLEXCORE™ 210
Cable Designator		**72**
Diameter (in/mm)		0.210/5.33
Operating Frequency (Max, GHz)		26.5
Attenuation– Max @ 2 GHz (dB/ft)		0.119
Attenuation– Max @ 10 GHz (dB/ft)		0.282
Attenuation– Max @ 18 GHz (dB/ft)		0.381
Attenuation– Max @ 26.5 GHz (dB/ft)		0.482
Power Handling – Avg (watts @ 1 GHz)		794
Phase Stability vs. Temp – ppm (nom)		1450
Phase Stability vs. Flexure† (@ 26.5 GHz, nom)		Max Deflection ±8° Relax ±4°
Shielding Effectiveness–Min‡ (dB @ 1 GHz)		> –90
Typical VSWR (2 straight connectors)		1.35:1
Min Bend Radius (in/mm)	Static	1.0/25.4
	Dynamic	2.0/50.8
Connector Retention to 26.5 GHz, pull (lbs/kg)		35/15.88
Velocity of Propagation (%)		78
Weight (grams/ft & /m)		23.31/66.62
Operating Temperature Range (°C)		–55 to +125

† **± 360 degree bends around a 4" mandrel.**

‡ **Subject to connector choice.**

Specifications subject to change without notice.

CABLE CONSTRUCTION

A Stranded silver-plated copper center conductor

B Tape-wrapped microporous PTFE dielectric

C Helically wrapped SPC flat wire shield

D Silver-plated copper braid

E Extruded blue FEP jacket

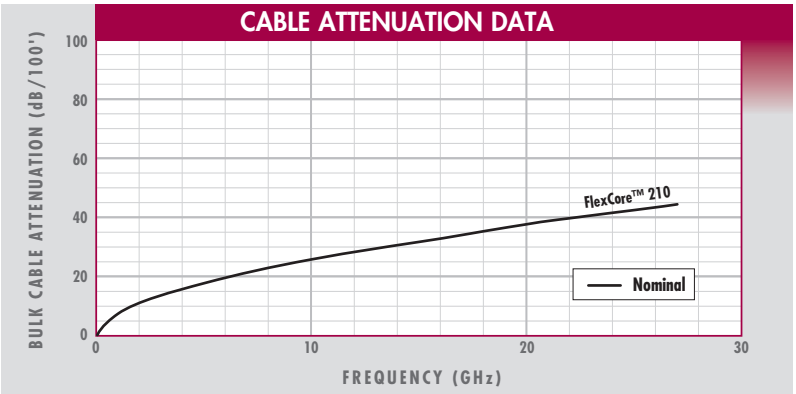
Improve Measurement Accuracy & Production Throughput

When performing Test & Measurement activities in a development lab or production environment, it's critical that the test lead not mask or influence values measured from the device under test.

Flexible cables with solid center conductors offer lower attenuation than cables with stranded conductors, but are more problematic when bending, routing or handling during measurement is required. Not only do these actions impact measurement accuracy and cable failure rate, they affect the amount of mechanical stress that is transferred to the device under test (DUT).

Therefore, when testing high frequency components—which are often small and fragile—it's particularly desirable to choose a test cable that is flexible enough to reduce mechanical stress on the DUT, in addition to offering low insertion loss levels.

The FlexCore™ product line—with its stranded center conductor—is designed to provide the requisite flexibility, while also delivering low loss, high performance . . . a solution that improves both measurement accuracy and production throughput.



For cable assembly insertion loss, call us or visit www.teledynestorm.com

ORDERING INFORMATION: Part Number Designation

ARMORING DESIGNATOR		CABLE DESIGNATOR		CONNECTOR COMBINATION PART NUMBER		ASSEMBLY LENGTH IN INCHES†
0/R	–	72	–		–	SEE EXAMPLES

Armoring Designator

0 - Unarmored **R** - Ruggedized (polyurethane jacket)

†*Consult factory for lengths less than 14 inches.*

EXAMPLES:

R72-0202-**024** = Ruggedized FlexCore™ 210, TNC SP to TNC SP (assembly operates to 18 GHz), **24 inches**

072-0414-**018.5** = FlexCore™ 210, 3.5 mm SP to 3.5 mm SJ (assembly operates to 26.5 GHz), **18 1/2 inches**

CONNECTOR CODES	
SP	Straight Plug
SJ	Straight Jack
RAP	Right-Angle Plug
NMD	Ruggedized Test Port Connector

CONNECTOR COMBINATION PART NUMBERS*

		CONNECTOR OPERATING FREQUENCY								
		18 GHz				26.5 GHz				
		SMA SP (to 18 GHz)	SMA SJ	SMA RAP	TNC SP	N SP	SMA SP (to 26.5 GHz)	3.5 mm NMD	3.5 SP	3.5 SJ
18 GHz	SMA SP (to 18 GHz)	0101	0111	0121	0102	0103	0141	0174	0104	0114
	SMA SJ	0111	1111	1121	0211	0311	1141	1174	0411	1114
	SMA RAP	0121	1121	2121	0221	0321	2141	2174	0421	1421
	TNC SP	0102	0211	0221	0202	0203	0241	0274	0204	0214
	N SP	0103	0311	0321	0203	0303	0341	0374	0304	0314
26.5 GHz	SMA SP (to 26.5 GHz)	0141	1141	2141	0241	0341	4141	4174	0441	1441
	3.5 mm NMD	0174	1174	2174	0274	0374	4174	7474	0474	1474
	3.5 SP	0104	0411	0421	0204	0304	0441	0474	0404	0414
	3.5 SJ	0114	1114	1421	0214	0314	1441	1474	0414	1414

** Other connector styles available; consult Storm.*

VALIDATION TESTING

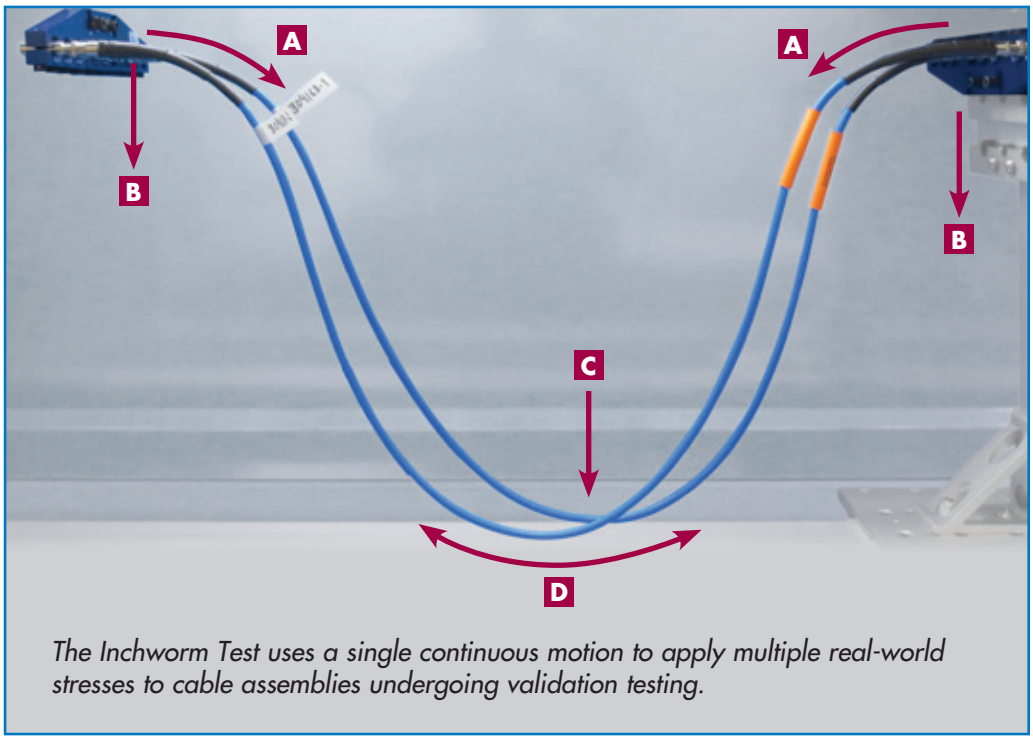
Where Design and Customer Expectations Meet

A critical milestone in product development is Validation Testing of the engineered solution.

During this phase, it is important to subject the final product design to a validation process that verifies the target specifications.

At the same time, testing should replicate the stress factors that the product will most likely be exposed to in its working application.

With this in mind, Teledyne Storm Microwave designed the Inchworm Test Equipment to put our new FlexCore™ stranded center conductor cable assemblies through their paces.



The Inchworm Test uses a single continuous motion to apply multiple real-world stresses to cable assemblies undergoing validation testing.

The Inchworm equipment provided a testing methodology capable of using a single continuous motion to apply multiple real-world stresses and strains related to cable flexure. These forces included:

- **A Compressive load on the connectors**
- **B Strain on the cable behind the cable-to-connector interface**
- **C Compression of the cable construction at the inner radius of the bend**
- **D Tensile load at the outer radius of the bend**

The test design ensured that both the cable construction and the connector-to-cable retention points received maximum stress.

Periodically, the movement was stopped and each cable's performance was measured and recorded. Flexing continued until the cable being tested failed to meet the product outline specifications.

Since the process and level of the validation testing is based on real-world application requirements, customers can be assured that FlexCore™ assemblies will meet their expectations for Product Quality, Risk Reduction, Minimized Down Time, and Measurement Accuracy.

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