# TPC WIRE & CABLE CORP. INDUSTRIAL ETHERNET CABLE COMPARISON GUIDE

## **TPC Wire & Cable Corp. Industrial Ethernet Cables**

#### Chem-Gard<sup>®</sup> 200°C CAT6 Industrial Ethernet Cable



This rugged Industrial Ethernet CAT6 cable is built for performance in the harshest of environments. Chem-Gard's unique physical properties offer resistance to UV light, cutting, abrasion, oil, chemicals and extreme temperatures. TPC Wire & Cable's Chem-Gard<sup>™</sup> CAT6 cable provides superior performance to meet or exceed CAT6 and Ethernet/IP requirements.

### Trex-Onics® Industrial Ethernet CAT5E / 2-Pair Cable



This UL approved Industrial Ethernet CAT5E / 2-pair cable is suitable for use in Ethernet systems where a more robust cable is required and is designed specifically for industrial applications where flexing and repetitive motion exists. M12 D-Coded Micro connectors are available as a field installable or let TPC wire and mold an assembly for you.

#### Trex-Onics<sup>®</sup> Industrial Ethernet Patch/Work Area CAT6A Cable



This Industrial Ethernet CAT6A cable is built for performance. The halogen-free and flame retardant jacket provides protection from environmental abuse and offers resistance to UV light, cutting, abrasion, oil and chemicals. Our combination of cellular insulation and shielded pairs provides superior performance to meet or exceed CAT6A and Ethernet/IP requirements.

#### Trex-Onics® Industrial Ethernet Patch/Work Area CAT7A Cable



The Ultra-Shield construction is a double-shield design using a heavy-duty tinned copper braid shield, an aluminum/polyester foil shield and a drain wire to create 100% shielding protection from electro-magnetic and radio frequency interference. The finely stranded braid shield also provides superior mechanical strength to the cable.

PC WIRE & CABLE CORP.

#### TPC INDUSTRIAL ETHERNET CABLE COMPARISON GUIDE

PRODUCT	Trex-Onics <sup>®</sup> Industrial Ethernet CAT5E / 2-Pair Cable	Chem-Gard <sup>®</sup> 200°C CAT6 Industrial Ethernet Cable	Trex-Onics <sup>®</sup> Industrial Ethernet Patch/Work Area CAT6A Cable	Trex-Onics <sup>®</sup> Industrial Ethernet Patch/Work Area CAT7A Cable	
RATINGS	UL Recognized	• TIA/EIA 568-B-2 CAT6	• IEC 60332-1	ANSI TIA/EIA 568-B	
	• TIA/EIA 568-C-2*	• 300 V	• IEC 61156	• ISO/IEC 11801	
	• AWM 20233	Operating Temperature Range	• ISO/IEC 11801	• IEC 60332-1	
	RoHS Compliant	-60°C to 200°C	RoHS Compliant	• IEC 61156-6	
	• 300 V	Finely Stranded Silver-Plated Copper	• 300 V	Operating Temperature Range	
	• 80°C	Color Coded to 586 B	Halogen-Free	-40°C to 70°C	
			Frequency Range up to 500 MHz	RoHS Compliant 2002/95/EC	
				<ul> <li>Frequency Range up to 1000 MHz</li> </ul>	
				Halogen-Free Flame Retardent	
				Abrasion Resistant	
				• 600 V	
VOLTAGE	300	300	300	600	
JACKET	Polyurethane	Tefzel	Polyurethane	Polyurethane	
INSULATION	Polypropalene	FEP	Polyolefin	Polyolefin	
ENVIRONMENTS**	A C F F	A C E F I T	A C F F	A C F F	
APPLICATIONS	PLC and DCS Automation Networks	Data Processing & Info Systems	Data Processing & Information Systems	Data Processing & Info Systems	
	Device and Field Level Networking	High Bandwidth Digital Applications	High Bandwidth Digital Applications	High Bandwidth Digital Applications	
	Industrial Ethernet Networks	High Data Rate Applications	High Data Rate Applications	High Data Rate Applications	

\*Telecommunications Industry Association / Electronic Industries Alliance

EXPECT HIGH PERFORMANCE®

\*\*Environments: **A** = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

CHARACTERISTIC	CAT 6	CAT 5E-2 PR	CAT 6A	CAT 7A
Frequency Bandwidth	250 MHz	100 MHz	500 MHz	1,000 MHz
Digital Bandwidth	10,000 MB/s	100 MB/s	10,000 MB/s	20,000 MB/s
Attenuation (Min. @ 250 MHz)	36 db	40 db	35 db	33 db
Characteristic Impedance	100 Ohms	100 Ohms	100 Ohms	100 Ohms
Compatibility	CAT 6 CAT 5E CAT 5	CAT 5E CAT 5	CAT 6A/CAT 6 CAT 5E/CAT 5	CAT 7/CAT 6A CAT 6/CAT 5E CAT 5
Standards Committee	TIA/EIA	TIA/EIA	ISO/IEC	ISO/IEC

**Frequency Bandwidth** — Measured in MegaHertz (MHz), is a measure of how big the opening is to get data through. A larger value equates to a faster data rate.

**Digital Bandwidth** — Measured in Megabits (MB/s), is a measure of the speed that the data moves. A larger value indicates a faster data rate.

**Attenuation** — Measured in decibels (db), is a measure of the relative differences in signal strength. A smaller value indicates less signal loss.

**Characteristic Impedance** — Measured in Ohms, is the input impedance (AC resistance) of the circuit. When impedances are matched, it provides the best data transfer.

**Standards** — TIA/EIA is the American standards organization for data communications. ISO/IEC is the international standards organization for data communications.



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