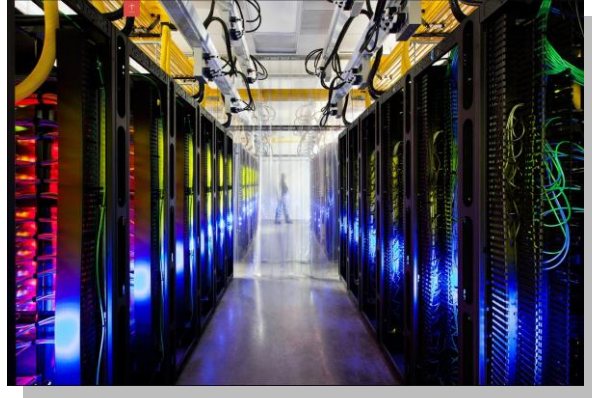


720 Sherman Avenue, Hamden CT, 06514 USA

Data Center SkewClear® Cables Introduction

Amphenol Spectra-Strip's family of standard high frequency SkewClear® precision twinaxial cables are designed to comply with higher frequency data center applications such as SFP+, QSFP+, CXP, InfiniBand FDR, and Mini-SAS HD for SAS 3.0.

In addition, Spectra-Strip supplies a broad range of copper solutions for next generation data center networks operating at 28 Gb per pair over SFP and QSFP form factors.



In all such cables, precision dielectric extrusion, pair shielding, and cabling are key elements necessary for consistent low skew, attenuation, and common mode conversion. Since all the standards specify maximum assembly insertion loss at a given frequency, it is crucial that all the pairs meet a specified *MAXIMUM* attenuation at the fundamental frequency of interest, as well as at harmonic frequencies.

In short, the cable is only as good as the worst pair in the cable, as this will be the one that limits the overall length performance. It is important to note that Spectra-Strip specifies **MAXIMUM** not **NOMINAL** attenuation performance at multiple frequencies on all of its cables.

SkewClear Features / Benefits:

- Stable, flat frequency response up to 35 GHz on EXD™ product line
- AWG range: 34 AWG thru 24 AWG
- Very low ILD
- Low common mode conversion (SCD21)
- SFP, QSFP, CXP and Mini SAS HD connector applications
- RoHS / REACH compliant
- UL CL2 / CSA FT4 rated standard 75°C
- UL AWM rated 80C style 20276
- Odd AWG sizes (31,29, 27, 25 AWG) available upon request
- Super flexible PVC, UL VW1, halogen free jackets also available
- Optional OptiClear™ super thin jacketing reduces cable size vs. traditional extruded jackets

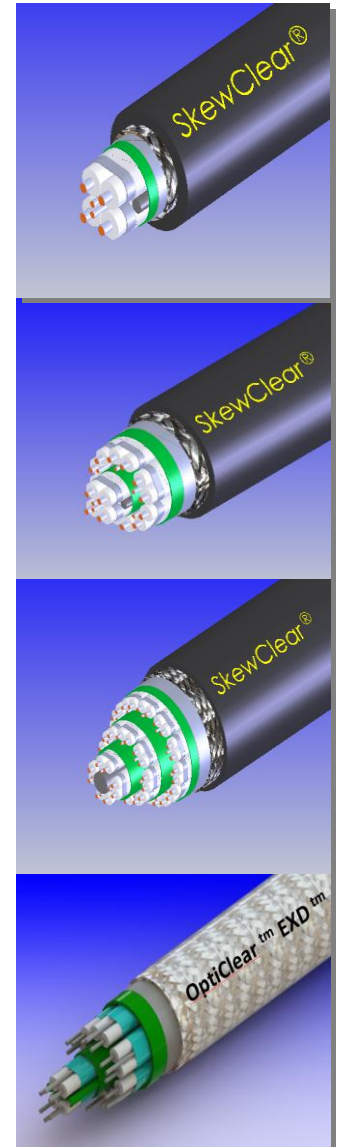
Amphenol Spectra-Strip

SkewClear®

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Specifications

Part Number	Description	Diameter (mm)	Min bend radius (mm)
166-3299-990	28Gb QSFP with OptiClear™ jacket	.170 (4.32)	.68 (17.27)
160-3099-983	SFP+ 30 AWG	.175 (4.44)	.70 (17.78)
160-3099-978	28Gb SFP 30 AWG	.185 (4.70)	.74 (18.79)
166-3099-871	HD Mini SAS 30 AWG	.195 (4.95)	.78 (19.81)
166-3093-804	28Gb QSFP with OptiClear™ jacket	.220 (5.58)	.88 (22.35)
166-3093-880	28Gb QSFP	.280 (7.11)	1.12 (28.44)
166-3099-918	QSFP+ 30 AWG	.250 (6.35)	.1.00 (25.40)
166-3099-994	CXP 30 AWG	.385 (9.78)	1.54 (39.11)
160-2899-993	SFP+ 28 AWG	.195 (4.95)	.78 (19.81)
166-2899-845	HD Mini SAS 28 AWG	.230 (5.84)	.92 (23.36)
166-2899-959	QSFP+ 28 AWG	.300 (7.62)	1.20 (30.48)
166-2899-993	CXP 28 AWG	.445 (11.30)	1.78 (45.21)
160-2699-997	SFP+ 26 AWG	.220 (5.58)	.88 (22.35)
166-2699-869	HD Mini SAS 26 AWG	.265 (6.73)	1.06 (26.92)
166-2699-936	28Gb QSFP	.385 (9.78)	2.31 (58.67)
166-2699-997	QSFP + 26 AWG	.330 (8.38)	1.32 (33.53)
166-2699-992	CXP 26 AWG	.535 (13.59)	2.14 (54.35)
160-2499-983	1X 24 AWG	.235 (5.97)	.94 (23.87)
166-2499-902	HD Mini SAS 24 AWG	.300 (7.62)	1.20 (30.48)
166-2499-950	QSFP 24 AWG	.375 (9.52)	1.50 (38.10)
166-2499-992	CXP 24 AWG	.635 (16.13)	2.54 (64.51)



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OptiClear™ Cable Jacketing

The under floor space in today's data center is more often than not a mess of completely tangled fiber optic and high speed copper cables. Upon expansion, many DC managers often opt to install new cabling on top of the existing network rather than try to untangle the mess and perhaps damage the cabling in the process. This results in installations that are overcrowded with cable and floors that actually become buckled with excessive cabling. Thus the need for smaller and more rugged cabling becomes apparent. **OptiClear** is



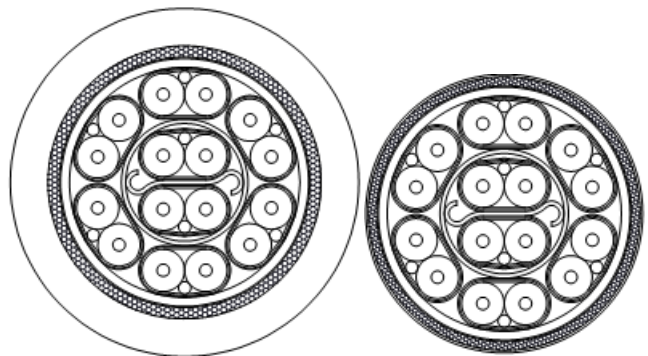
a cable jacketing technology developed by Spectra-Strip that replaces thick extruded PVC jackets with a very thin (.002 inch), dual layer, heat sealed polyester composite material. With OptiClear all UL VW1 cable flame ratings are retained with a substantial reduction in cable diameter, a critical performance metric in today's data center. OptiClear is extremely cut-through and abrasion resistant vs. typical PVC jacketed constructions,.



Size Reduction Example: 8 pair 30 AWG EXD with traditional jacket vs. same core cable with OptiClear jacket

Standard: .280 Opticlear .220

21% reduction

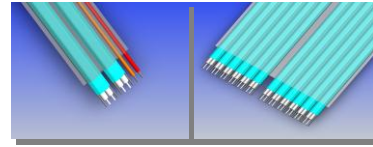


Amphenol Spectra-Strip

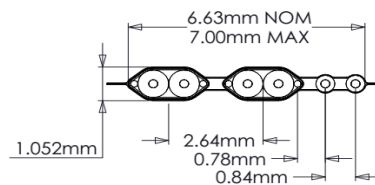
SkewClear®

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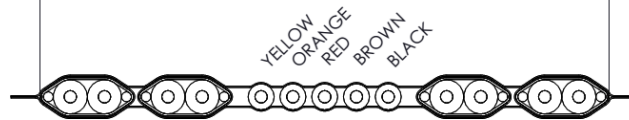
Common Internal SAS / PCIe Cables



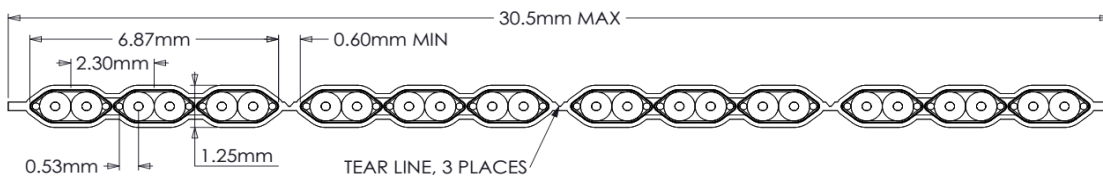
Part Number	No. Pairs	AWG / Plating	UL rating	Zo	Sideband signals / AWG	Width (mm)	Thickness (mm)
130-3093-916-01	4	30 AWG SPC	HB	85 ohms	5, 30 AWG	.458 (11.64)	.034 (.87)
130-3193-979	12	31 AWG TC	HB	92 ohms	8, 31 AWG	.960 (24.40)	.034 (.87)
130-3099-950	12	30 AWG SPC	VW1	100 ohms	8, 30 AWG	1.200 (30.50)	.049 (1.25)
130-3099-940	2	30 AWG TC	VW1	100 ohms	2, 30 AWG	.275 (7.00)	.041 (1.05)



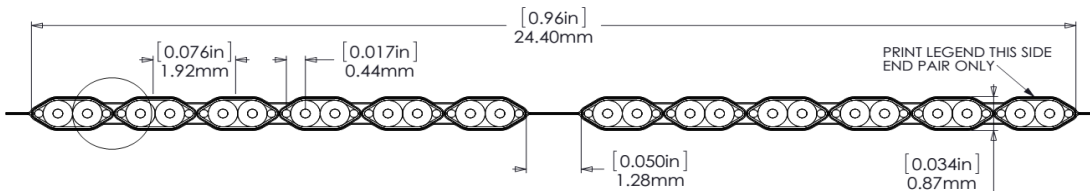
Part # 130-3099-940 100 ohm



Part # 130-3099-916-01 85 ohm



Part # 130-3099-950 100 ohm



Part # 130-3193-979 92 ohm