



ISO Class 1 cleanroom drag-chain series

SABclean SD 776 / SD 780 C / SD 787 C TP

Cleanroom

ISO Class 1 cleanroom unscreened, braided & twisted-pair drag-chain series



ISO 14644-1 Class 1

SD 776 / 780 C / 787 C TP

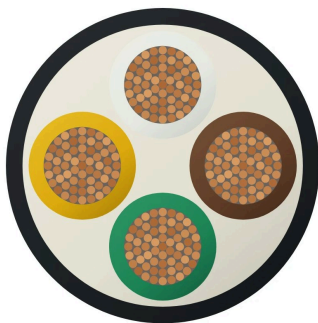
5×-7.5×OD Cleanroom Chain

Application

Three-model ISO 14644-1 Class 1 cleanroom continuous-flex drag-chain series — SD 776 (unscreened), SD 780 C (overall copper-braided) and SD 787 C TP (twisted-pair copper-braided) — with low-outgassing TPE insulation and non-particulating PUR sheath.

Typical uses: Semiconductor EFEM & Wafer Stages, Overhead Hoist Transport (OHT/AMHS), OLED / Micro-LED Vacuum Chambers, Battery Dry-Room Stacking Gantries, Medical Diagnostic Linear Scanners

Construction



Cross-section, not to scale

- 1 Superfine copper conductor
- 2 Low-outgassing TPE insulation
- 3 Multicore or twisted-pair (TP) lay-up
- 4 Non-shedding PTFE sliding wrap
- 5 Tinned copper EMC braid (SD 780 C & SD 787 C TP)
- 6 ISO Class 1 cleanroom PUR sheath

Technical data

Typical values

Rated voltage U0/U	300/500 V ($\geq 0.5 \text{ mm}^2$) · 300/350 V ($\leq 0.34 \text{ mm}^2$)	AC test voltage	2000 V / 3000 V AC (50 Hz, 5 min)
Screen / Field control	SD 776: None · SD 780 C & 787 C TP: ≥ 85 % Cu braid	Mutual capacitance	$\approx 60 \text{ pF/m}$ (core/core) · $\approx 110 \text{ pF/m}$ (core/screen)
Temperature, flexing	-40 °C to +80 °C	Temperature, fixed installation	-50 °C to +90 °C
Max. conductor temperature	+90 °C (+80 °C UL AWM)	Min. bending radius, moving	5 × OD (SD 776) · 7.5 × OD (SD 780 C & SD 787 C TP)
Min. bending radius, fixed	3 × OD (SD 776) · 4 × OD (SD 780 C & SD 787 C TP)	Max. travel speed	5 m/s gliding · 10 m/s unsupported
Max. acceleration	Up to 50 m/s ²	Endurance cycles	$\geq 10,000,000$ flex cycles in linear carrier
Cleanroom classification	ISO 14644-1 Class 1 · US Fed. Std. 209E Class 1	Outgassing (AMC / VOC)	Ultra-low VOC/SVOC outgassing per ISO 14644-8
Halogen-free & LABS-free	IEC 60754-1/2 halogen-free & 100 % silicone-free	Flame retardance	IEC 60332-1-2 · UL 1581 FT1 / VW-1
Standards	ISO 14644-1 Class 1 & VDI 2083 Part 9.1		

Sizes

18 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Configuration	Screening & lay	Outer Ø ≈ mm	Total Cu kg/km	Weight ≈ kg/km	Min. bend R chain mm
SABclean SD 776 — Unscreened Cleanroom Drag-Chain Cables (5 × OD) 6 sizes						
☐ SABclean SD 776 4×0.25	4×0.25	Unscreened	4.5	10	27	23
☐ SABclean SD 776 7×0.25	7×0.25	Unscreened	5.4	17	39	27
☐ SABclean SD 776 4G0.5	4G0.5	Unscreened	5.4	19	42	27
☐ SABclean SD 776 7G0.5	7G0.5	Unscreened	6.6	34	66	33
☐ SABclean SD 776 12G0.75	12G0.75	Unscreened	9.4	86	142	47
☐ SABclean SD 776 4G1.5	4G1.5	Unscreened	7.3	58	92	37
SABclean SD 780 C — Copper-Braided Cleanroom Drag-Chain Cables (7.5 × OD) 6 sizes						
☐ SABclean SD 780 C 4×0.25	4×0.25 C	≥ 85 % Cu Braid	5.1	20	38	38
☐ SABclean SD 780 C 7×0.25	7×0.25 C	≥ 85 % Cu Braid	6.0	30	54	45
☐ SABclean SD 780 C 4G0.5	4G0.5 C	≥ 85 % Cu Braid	6.0	32	57	45
☐ SABclean SD 780 C 7G0.5	7G0.5 C	≥ 85 % Cu Braid	7.3	52	86	55
☐ SABclean SD 780 C 12G0.75	12G0.75 C	≥ 85 % Cu Braid	10.2	118	178	77
☐ SABclean SD 780 C 4G1.5	4G1.5 C	≥ 85 % Cu Braid	8.1	84	124	61
SABclean SD 787 C TP — Twisted-Pair Copper-Braided Cleanroom Cables (7.5 × OD) 6 sizes						
☐ SABclean SD 787 C TP 2×2×0.14	2×2×0.14 C TP	TP + ≥ 85 % Braid	5.2	18	36	39
☐ SABclean SD 787 C TP 4×2×0.14	4×2×0.14 C TP	TP + ≥ 85 % Braid	6.3	29	54	47
☐ SABclean SD 787 C TP 4×2×0.25	4×2×0.25 C TP	TP + ≥ 85 % Braid	7.1	42	74	53
☐ SABclean SD 787 C TP 8×2×0.25	8×2×0.25 C TP	TP + ≥ 85 % Braid	9.4	76	128	71
☐ SABclean SD 787 C TP 4×2×0.50	4×2×0.50 C TP	TP + ≥ 85 % Braid	8.8	68	112	66
☐ SABclean SD 787 C TP 8×2×0.50	8×2×0.50 C TP	TP + ≥ 85 % Braid	11.6	128	198	87

– Custom core counts (up to 36G) and pair counts (up to 16×2) are manufactured across all three SABclean SD series.

Electrical parameters by cross-section

5 sizes

Cross-section	Applicable series	Max. DC R @ 20 °C Ω/km	Max. current at +30 °C (A)	C core/core pF/m≈	AC test V rms
0.14 mm ² (AWG 26)	SD 776 · SD 780 C · SD 787 C TP	138.0	2.0	55	1,500
0.25 mm ² (AWG 24)	SD 776 · SD 780 C · SD 787 C TP	79.0	4.0	58	2,000
0.50 mm ² (AWG 20)	SD 776 · SD 780 C · SD 787 C TP	39.0	8.0	62	3,000
0.75 mm ² (AWG 19)	SD 776 · SD 780 C	26.0	12.0	65	3,000
1.50 mm ² (AWG 16)	SD 776 · SD 780 C	13.3	18.0	70	3,000

– Low-capacitance TPE insulation (~55–62 pF/m) on SD 787 C TP supports high-speed differential linear stage encoders without pulse distortion.

Standards and approvals

- ✓ ISO 14644-1 Air Cleanliness Class 1 Qualified
- ✓ UL AWM Style 21576 / 20233 (80 °C 600/1000 V) · CSA
- ✓ CE, RoHS 2 (2011/65/EU) & 100 % Halogen/Silicone-Free

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/sabclean-sd-776-sd-780-c-sd-787-c-tp-cleanroom-continuous-flex-drag-chain-cable



Typical values for this cable type, based on ISO 14644-1 Class 1 / DIN VDE 0285 / UL AWM. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.