



Cleanroom 3D torsion robot cable

SABclean RT 793 D

Cleanroom Torsion-Resistant Robot Control &

ISO Class 1 cleanroom $\pm 360^\circ/\text{m}$ torsion robot cable with spiral D-shield

ISO 14644-1 Class 1

 $\pm 360^\circ/\text{m}$ / $\pm 180^\circ/\text{m}$ Torsion

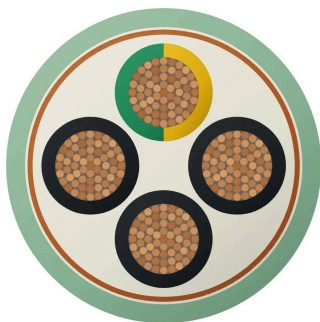
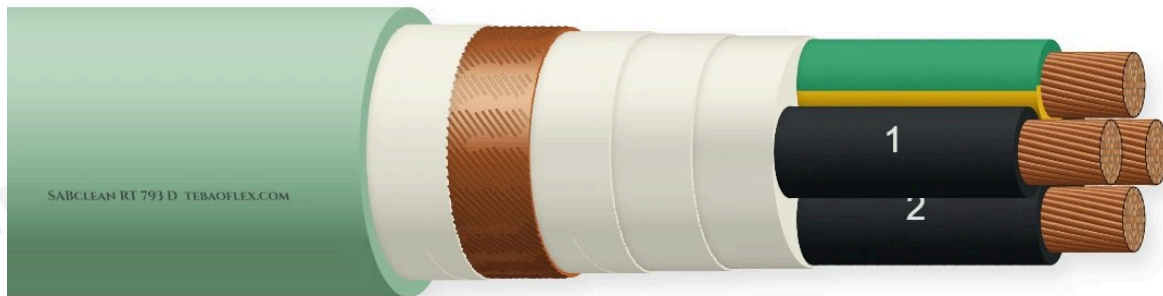
Spiral Cu D-Shield

Application

SABclean RT 793 D is an ISO 14644-1 Class 1 cleanroom 3D torsion robot control and power cable featuring extra-fine Class 6+ copper strands, low-outgassing TPE insulation, helical tinned copper D-shield and non-particulating matte PUR jacket.

Typical uses: Semiconductor Wafer-Handling Robots, EUV & DUV Lithography Track Cells, OLED / Flat-Panel Display Cleanrooms, Aseptic Pharmaceutical Filling Lines, Aerospace Satellite Assembly Rooms

Construction



Cross-section, not to scale

- 1 Torsion-relieved copper conductor
- 2 Low-outgassing TPE insulation
- 3 Inner PTFE anti-friction wrap
- 4 Helical tinned copper D-shield (D)
- 5 Outer PTFE separating wrap
- 6 Non-particulating cleanroom PUR sheath

Technical data

Typical values

Rated voltage U0/U	300/500 V (0.6/1 kV on 1.5–2.5 mm ² · UL 600 V)	AC test voltage	2000 V AC (0.25 mm ²) · 3000 V AC (≥ 0.5 mm ²)
Screen / Field control	Helical tinned copper D-shield ≥ 85 % coverage	Mutual capacitance	≈ 65 pF/m (core/core) · ≈ 115 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)	Torsional stress	Up to ±360°/m (±180°/m continuous high-speed)
Torsion endurance	≥ 5,000,000 torsion cycles	Min. bending radius, moving	7.5 × OD (3D robot & drag chain)
Min. bending radius, fixed	4 × OD	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	Sterilisation & wipe-down	Resists IPA alcohol, H2O2 VHP & cleanroom detergents
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 cleanroom spec		

Sizes

14 standard constructions

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

Order designation	Configuration	Cross-section	Outer Ø ≈ mm	Total Cu kg/km	Weight ≈ kg/km	Min. bend R moving mm
0.25 mm ² D-screened cleanroom robot sensor & gripper cables 5 sizes						
☐ SABclean RT 793 D 4×0.25	4×0.25 D	0.25 mm ²	5.2	19	39	39
☐ SABclean RT 793 D 8×0.25	8×0.25 D	0.25 mm ²	6.6	33	62	50
☐ SABclean RT 793 D 12×0.25	12×0.25 D	0.25 mm ²	7.6	46	84	57
☐ SABclean RT 793 D 18×0.25	18×0.25 D	0.25 mm ²	8.9	66	116	67
☐ SABclean RT 793 D 25×0.25	25×0.25 D	0.25 mm ²	10.4	89	156	78
0.50 mm ² D-screened cleanroom robot control cables 4 sizes						
☐ SABclean RT 793 D 4G0.5	4G0.5 D	0.50 mm ²	6.1	31	55	46
☐ SABclean RT 793 D 7G0.5	7G0.5 D	0.50 mm ²	7.4	50	84	56
☐ SABclean RT 793 D 12G0.5	12G0.5 D	0.50 mm ²	9.5	82	134	71
☐ SABclean RT 793 D 18G0.5	18G0.5 D	0.50 mm ²	11.2	118	188	84
0.75 mm ² D-screened cleanroom robot control cables 3 sizes						
☐ SABclean RT 793 D 4G0.75	4G0.75 D	0.75 mm ²	6.7	43	68	50
☐ SABclean RT 793 D 7G0.75	7G0.75 D	0.75 mm ²	8.2	70	108	61
☐ SABclean RT 793 D 12G0.75	12G0.75 D	0.75 mm ²	10.6	114	176	80
1.50–2.50 mm ² D-screened cleanroom robot servo power cables 2 sizes						
☐ SABclean RT 793 D 4G1.5	4G1.5 D	1.50 mm ²	8.4	79	122	63
☐ SABclean RT 793 D 4G2.5	4G2.5 D	2.50 mm ²	10.1	124	182	76

– For linear cleanroom drag chains (unscreened, braided, or twisted-pair), see SABclean SD 776 / SD 780 C / SD 787 C TP.

Electrical & cleanroom parameters

5 sizes

Cross-section	ISO 14644-1 class	Max. DC R @ 20 °C Ω/km	Ampacity 3-loaded (A)	AC test V _{rms}
0.25 mm ² D	ISO Class 1 (≤ 10 particles ≥ 0.1 μm/m ³)	79.00	4.5	2,000
0.50 mm ² D	ISO Class 1 (≤ 10 particles ≥ 0.1 μm/m ³)	39.00	9.0	3,000
0.75 mm ² D	ISO Class 1 (≤ 10 particles ≥ 0.1 μm/m ³)	26.00	12.0	3,000
1.50 mm ² D	ISO Class 1 (≤ 10 particles ≥ 0.1 μm/m ³)	13.30	18.0	3,000
2.50 mm ² D	ISO Class 1 (≤ 10 particles ≥ 0.1 μm/m ³)	7.98	26.0	3,000

– Shipped double-bagged in cleanroom polyethylene packaging on plastic spools upon request.

Standards and approvals

- ✓ ISO 14644-1 Air Cleanliness Class 1 Qualified
- ✓ UL AWM Style 21576 / 20939 (80 °C 600/1000 V) · CSA
- ✓ CE, RoHS 2 (2011/65/EU) & 100 % Silicone/Halogen-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-rt-793-d-cleanroom-torsion-resistant-robot-control-power-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.