

CABLES FOR A MOVING WORLD

TRATOSMOD[®]



Tratos-MOD[®] cables are made with award winning Tratos-JBA[®] compound. Tratos UK Ltd has won a Queen's Award for Enterprise - Innovation for its technologically advanced Tratos-JBA[®] compound.

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CUSTOMISED UPON REQUEST

Tratos manufactures cable products designed for military and defence applications globally.

Our customised and diverse product range comprises power cables, control & instrumentation cables and communication cables (including optical fibre) or combinations of all of the above.

Tratos deliver world-leading cable excellence for a number of **unique applications**, from **land** and **marine** such as **sonar** and **field-deployed communication systems**.

STANDARDS AND QUALITY SYSTEM

QUALITY SYSTEM

Tratos aim to work closely with customers to find better, more environmentally friendly solutions to their challenges.

We are committed to our vision and strategy to serve all our internal and external customers by providing high quality services and products. Tratos is an established industry leader in the design, manufacture and supply of cables and products and to maintain this leading position we are committed at every level to providing our customers with quality services and products at a competitive price. As a commercial enterprise we are aware of the importance of satisfying our customers and of the financial impact of which nonconformities may have on our profitability. For these reasons we are committed to complying with all customer requirements and specifications both legal and statutory requirements. Our Quality Management System has been audited and approved by two independent, Internationally recognized and accepted authorities: BSI and AENOR-IQNET (E), in accordance to BS EN ISO 9001:2015 covering the production, purchasing of raw materials design and final test including various document types. The Tratos Quality Management system is under frequent regular surveillance by inspectors working for the Certification Authorities.



ENVIRONMENTAL SYSTEM

Our Environmental Management System has been audited and approved by two independent, Internationally recognized and accepted authorities:

BSI and AENOR-IQNET (E), in accordance to BS EN ISO 14001:2015 covering the production, purchasing of raw materials design and final test including various document types. The Tratos Quality Management system is under frequent regular surveillance by inspectors working for the Certification Authorities.



ENERGY MANAGEMENT SYSTEMS

By complying with the BS EN ISO 50001:2018 Tratos follows a systematic approach in achieving continual improvement of energy performance and the Energy Management Systems (EnMS).

The BS EN ISO 50001:2018 is a standard issued by the International Standard Organization (ISO) which outlines the requirements for establishing, implementing, maintaining and improving an energy management system (EnMS).



CIRCULAR ECONOMY

The EU Eco-Management and Audit Scheme (EMAS) is a premium management instrument developed by the European Commission for companies and other organisations to evaluate, report, and improve their environmental performance. EMAS is open to every type of organisation eager to improve its environmental performance. It spans all economic and service sectors and is applicable worldwide.



AWARDS

Tratos cables are made with award winning Tratos-JBA® compound.

Tratos UK Ltd has won a **Queen's Award for Enterprise - Innovation** for its technologically advanced Tratos-JBA® compound.



STANDARDS AND QUALITY SYSTEM

HEALTHY & SAFETY SYSTEM

Once its decision to create a board post dedicated to furthering best practice for Health and Safety, international cable manufacturer Tratos is celebrating receipt of ISO 45001.

ISO 45001 sets out the minimum requirements for occupational health and safety management best practice and helps companies achieve the maximum return for employees, operations and customers.



REACH, WEEE & ROHS



Tratos is fully compliant with the **REACH**. This is a European Union regulation concerning the **Registration, Evaluation, Authorisation and restriction of Chemicals**. It came into force on 1st June 2007 and replaced a number of European Directives and Regulations with a single system. REACH applies to substances manufactured or imported into the EU in quantities of 1 tonne or more per year. Generally, it applies to all individual chemical substances on their own, in preparations or in articles. To summarise, REACH makes the cable industry directly responsible for assessing and managing the risks posed by chemicals and providing safety information to their users.



Tratos fully subscribes to The **Waste Electrical and Electronic Equipment Directive (WEEE Directive)**, introduced into UK law in January 2007 by the Waste Electronic and Electrical Equipment Regulations 2006. The WEEE Directive aims to reduce the amount of electrical and electronic equipment being produced and to encourage everyone to reuse, recycle and recover it. The WEEE Directive also aims to improve the environmental performance of businesses that manufacture, supply, use, recycle and recover electrical and electronic equipment. TRATOS has enlisted the services of the UK's leading producer compliance scheme, Valpak, whom manage our recycling obligations and also ensure our compliance to the WEEE Regulations and the Waste Batteries and Accumulators Regulations.



Tratos is fully compliant with the **Restriction of Hazardous Substances (RoHS) Regulations**. These Regulations implement EU Directive 2011/65/EU which bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants. Tratos fully understands the requirements of the RoHS Directive and ensures that our products, and their components, comply.

CORPORATE SOCIAL RESPONSABILITY

Tratos adopts a Code of Ethics which adheres to the United Nations Global Compact on human rights, labour standards, protection of the environment and anti corruption measures.

Under this self regulatory code, Tratos will carry out initiatives in the environmental and social fields with special reference to environmental policies and social policies regarding child labour, compulsory labour, health and security, freedom of association and the right to collective bargaining, discrimination, disciplinary procedures, working hours and wages.

APPROVALS

Naval cables made by Tratos have been tested and certified by the following Approval Organisations:

QINETIQ

QinetiQ Group plc



Lloyd's Register
Group

IMQ

Istituto Marchio di Qualità



Registro Italiano
Navale

STANDARDS AND QUALITY SYSTEM / CUSTOMERS

STANDARDS

Cables manufactured based on:

DEF STAN 61-12 Part 25 Issue 5. . Wires, Cords and Cables, Electrical Part 25:Wires and Cables Electrical Limited Fire Hazard, up to Conductor
..... Size 10 mm²Cross Sectional Area – Sectional Specification.

The Defence 61-12 Part 25 specification also incorporates a number of non-standard special cables which were formerly listed in NES 525 and Low Tension cables from DEF Stan 02-643.

DEF STAN 02-526 Issue 2 Requirements for Cables Electric, Elastomeric, Limited Fire Hazard Sheathed for General Service.
(including Amd.1)

DEF STAN 02-527 Issue 1 Requirements for Cables, Electric Fire Survival, High Temperature Zones and Limited Fire Hazard Sheathed.

DEF STAN 61-12 Part 31 Issue 2. . Wires, Cords and Cables, Electrical, Metric Units Part 31:Sheaths – Limited Fire Hazard – Standards for Defence.

Applicable Codes of Practice:

JSP 430, Ship Safety Management System Handbook:

Volume 1: Policy and Guidance on MOD Ship and Equipment Safety Management

CUSTOMERS



Ministry
of Defence

As featured in *the 2019*
QUEEN'S AWARDS
 for ENTERPRISE
magazine



THE QUEEN'S AWARD
 FOR ENTERPRISE IN
 INNOVATION

Tratos Ltd

Tratos Ltd is the cable industry's innovator and, because cable is fundamental to almost every innovation, it has become an enabler of emerging technology across the industries that move the world forward.

Tratos is part of an international team working on the ITER project – an exploration of controlled thermonuclear fusion as an inexhaustible supply of clean, green energy.

Tratos supplied key components of the superconductivity experiment, in particular cable-in-conduit (CIC) superconducting wire, for the construction of magnets for the ITER reactor.

R&D develops cable from concept to production to open up new possibilities for performance. Tratos conceived and produced the world's smallest microcable for faster and more easily-accessed broadband connectivity, for example.

Its latest sheathing compounds deliver reliability, performance and health and safety advances in the harshest environments, and its new breed hybrid conductors are protecting the integrity of more hard-won energy as it travels across overhead power cables.

Tratos won a Queen's Award for Innovation for its JBA cable. The JBA (Jasmine* Bragagni Albano) was named after the President of Tratos, Ing. Com. Albano Bragagni, OMRI, inventor of the LSZH (Low Smoke Zero Halogen) extra compound. Tratos' Oil & Gas JBA® is a special cable range designed and manufactured for the oil and gas market to meet necessary test requirements.

The JBA family of cables is mud and fire resistant to extreme temperatures, and capable of withstanding water and impact.

Tratos is a family-owned business professionally managed by a board drawn from senior experts with a wealth of industry experience. The Tratos board members, pictured left to right; Dr Ennio Bragagni Capaccini, Ing Albano Bragagni, Dr Elisabetta Bragagni Capaccini, Mr Germano Bragagni, Mr Neil Ancell, Mr John Light and Dr Maurizio Bragagni. Additional members of The Tratos board include; Enrico Scambia, Kevin and James Card.

Tratos has UK and Italy manufacturing and test facilities, and offices worldwide. It works with customers, creating bespoke solutions and high quality cabling to meet their needs.

The international ports industry is celebrating the



The innovative Tratos team, pictured here with Prime Minister Theresa May, are invested in the UK.



Left and below: Tratos is the cable industry's innovator, and its range is helping to move the world forward.

11th year of continuous running of Tratos' high-speed reeling cable.

Tratos works across infrastructure industries worldwide, from rail and smart highways to power, oil and gas, marine, construction, defence and communications. It is invested in the UK; not only on the millions spent on state-of-the-art production facilities, new manufacturing equipment and creating 40 new jobs, but as a stakeholder in the UK economy.

Tratos supports investment in faster, smarter routes to super-fast broadband speeds for Britain. Its White Paper examines the issues and potential solutions to UK connectivity challenges. It also champions change-for-good for the development of more efficient green energy transmission cable for safer homes and public buildings.

The company's Academy works to develop its people and encourage innovation. Says CEO and Chair Dr Maurizio Bragagni: "A true culture of innovation requires the time and space to experiment, and the understanding that it's ok to make mistakes. Finding out how not to do something is another step closer to achieving the right way to doing something. Removing the fear of blame is the first step towards discovering something new, useful and ground-breaking. In our world 'impossible' simply means not possible... yet."

*Developed for the Jasmine North Sea offshore platform.

TRATOS LTD

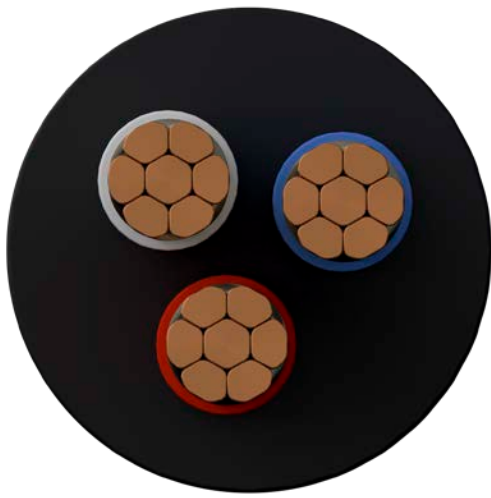
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Defence Standard 61-12 Part 25 Issue 5 (previously NES525)
Multi Core Limited Special Tratos JBA[®] Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12[®] 1A

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

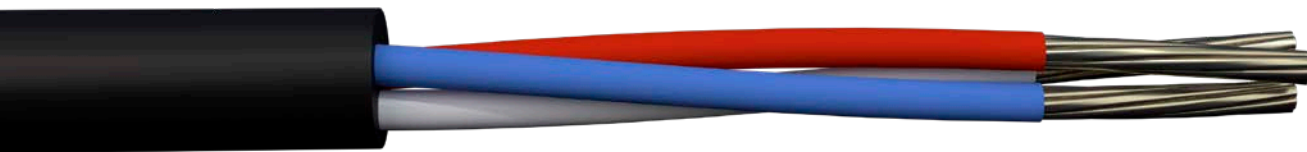
- Stranded tinned annealed copper wires
Class 5 conductors according to Def Stan 61-12 Part 18

INSULATION

- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Multi Core Limited Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99-	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Minimum O/D mm	Maximum O/D mm	Cable Weight Kg/m
Table 4 Multicore Cables - Unscreened 0.2mm ²								
891-9293	TT-891-9293	0.20	19/0.12	2	0.2	3.6	3.8	(1)
891-9874	TT-891-9874	0.20	19/0.12	3	0.2	3.95	5.05	(1)
891-9875	TT-891-9875	0.20	19/0.12	7	0.2	4.7	5.9	(1)
891-9876	TT-891-9876	0.20	19/0.12	14	0.2	6.0	7.4	(1)
891-9877	TT-891-9877	0.20	19/0.12	24	0.2	7.6	9.0	(1)
891-9878	TT-891-9878	0.20	19/0.12	37	0.2	8.3	10.2	(1)
891-9879	TT-891-9879	0.20	19/0.12	44	0.2	9.4	11.4	(1)
Table 5 Multicore Cables - Unscreened 0.35mm ² (Maximum conductor resistance at 20°C 95.6Ω/km)								
891-9880	TT-891-9880	0.35	19/0.15	3	0.2	4.25	5.4	(1)
891-9881	TT-891-9881	0.35	19/0.15	7	0.2	5.15	6.45	(1)
891-9882	TT-891-9882	0.35	19/0.15	14	0.2	6.7	8.1	(1)
891-9883	TT-891-9883	0.35	19/0.15	19	0.2	7.25	8.75	(1)
891-9884	TT-891-9884	0.35	19/0.15	24	0.2	8.5	10.1	(1)
891-9885	TT-891-9885	0.35	19/0.15	37	0.2	9.55	11.45	(1)
891-9886	TT-891-9886	0.35	19/0.15	44	0.2	10.8	12.8	(1)
Table 6 Multicore Cables - Unscreened 0.6mm ² (Maximum conductor resistance at 20°C 33.2Ω/km)								
891-9310	TT-891-9310	0.60	19/0.20	2	0.2	4.4	5.7	(1)
891-9887	TT-891-9887	0.60	19/0.20	3	0.2	4.8	6.0	(1)
891-9313	TT-891-9313	0.60	19/0.20	4	0.2	5.1	6.3	(1)
891-9888	TT-891-9888	0.60	19/0.20	7	0.2	5.9	7.2	(1)
891-9889	TT-891-9889	0.60	19/0.20	14	0.2	7.95	9.4	(1)
891-9890	TT-891-9890	0.60	19/0.20	19	0.2	8.7	10.2	(1)
891-9891	TT-891-9891	0.60	19/0.20	24	0.2	10.0	11.8	(1)
891-9892	TT-891-9892	0.60	19/0.20	37	0.2	11.5	13.4	(1)
Table 7 Multicore Cables - Unscreened 1.0mm ² (Maximum conductor resistance at 20°C 21.1Ω/km)								
891-9893	TT-891-9893	1.0	19/0.25	2	0.2	5.1	6.3	(1)
892-0029	TT-892-0029	1.0	19/0.25	3	0.2	5.35	6.55	(1)
892-0030	TT-892-0030	1.0	19/0.25	4	0.2	5.75	7.0	(1)
892-0031	TT-892-0031	1.0	19/0.25	7	0.2	6.65	7.95	(1)
892-0032	TT-892-0032	1.0	19/0.25	10	0.2	8.4	9.8	(1)
892-0033	TT-892-0033	1.0	19/0.25	14	0.2	9.05	10.5	(1)
892-0034	TT-892-0034	1.0	19/0.25	19	0.2	9.95	11.7	(1)
892-0035	TT-892-0035	1.0	19/0.25	24	0.2	11.7	13.5	(1)
892-0036	TT-892-0036	1.0	19/0.25	37	0.2	13.45	15.4	(1)
Table 8 Multicore Cables - Unscreened 1.5mm ² (Maximum conductor resistance at 20°C 14.5Ω/km)								
892-0037	TT-892-0037	1.5	19/0.30	2	0.2	5.6	6.8	(1)
892-0038	TT-892-0038	1.5	19/0.30	3	0.2	5.9	7.1	(1)
892-0039	TT-892-0039	1.5	19/0.30	7	0.2	7.4	8.7	(1)
892-0040	TT-892-0040	1.5	19/0.30	14	0.2	10.15	11.8	(1)
892-0041	TT-892-0041	1.5	19/0.30	24	0.2	13.4	15.2	(1)
Table 9 Multicore Cables - Unscreened 2.5mm ² (Maximum conductor resistance at 20°C 7.6Ω/km)								
892-0042	TT-892-0042	2.5	37/0.30	2	0.2	6.9	8.0	(1)
892-0043	TT-892-0043	2.5	37/0.30	3	0.2	7.3	8.4	(1)
892-0044	TT-892-0044	2.5	37/0.30	7	0.2	9.55	10.7	(1)
892-0045	TT-892-0045	2.5	37/0.30	14	0.2	13.45	14.9	(1)
892-0046	TT-892-0046	2.5	37/0.30	24	0.2	17.50	19.2	(1)

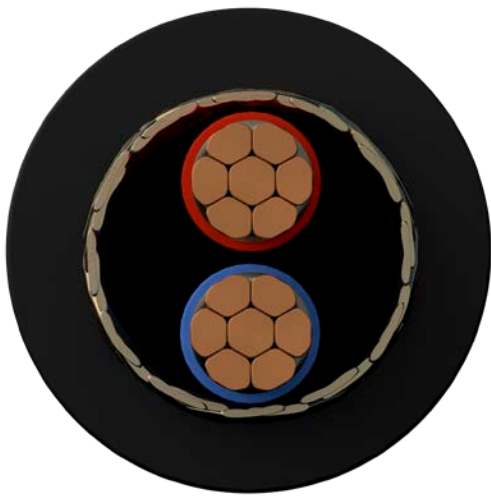
(1) Cable weight upon request

Defence Standard 61-12 Part 25 Issue 5 (previously NES525)
Collectively Screened Multi Core Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12® 2I

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 5 conductors according to Def Stan 61-12 Part 18

INSULATION

- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Collectively Screened Multi Core Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Copper Braid Wire Size mm	Minimum O/D mm	Maximum O/D	Cable Weight Kg/m
Table 11 Multicore Cables - Collectively Screened 0.2mm ² (Maximum conductor resistance at 20°C 95.6Ω/km)									
891-9339	TT-891-9339	0.2	19/0.12	2	0.2	0.1	4.3	6.0	(1)
891-9341	TT-891-9341	0.2	19/0.12	3	0.2	0.1	4.5	6.2	(1)
891-9343	TT-891-9343	0.2	19/0.12	4	0.2	0.12	4.8	6.5	(1)
891-9345	TT-891-9345	0.2	19/0.12	7	0.2	0.12	5.4	7.1	(1)
891-9347	TT-891-9347	0.2	19/0.12	14	0.2	0.12	7.1	9.0	(1)
891-9349	TT-891-9349	0.2	19/0.12	19	0.2	0.12	7.5	9.6	(1)
891-9351	TT-891-9351	0.2	19/0.12	24	0.2	0.12	8.6	11.0	(1)
Table 12 Multicore Cables - Collectively Screened 0.35mm ² (Maximum conductor resistance at 20°C 60.0Ω/km)									
892-0086	TT-892-0086	0.35	19/0.15	2	0.2	0.1	4.8	6.3	(1)
892-0047	TT-892-0047	0.35	19/0.15	3	0.2	0.1	4.95	6.5	(1)
892-0048	TT-892-0048	0.35	19/0.15	7	0.2	0.12	5.95	7.55	(1)
892-0049	TT-892-0049	0.35	19/0.15	14	0.2	0.12	7.65	9.4	(1)
892-0050	TT-892-0050	0.35	19/0.15	19	0.2	0.12	8.25	10.1	(1)
892-0051	TT-892-0051	0.35	19/0.15	24	0.2	0.12	9.3	11.4	(1)
892-0052	TT-892-0052	0.35	19/0.15	37	0.2	0.12	10.55	12.8	(1)
892-0087	TT-892-0087	0.35	19/0.15	44	0.2	0.15	11.75	14.1	(1)
Table 13 Multicore Cables - Collectively Screened 0.6mm ² (Maximum conductor resistance at 20°C 33.1Ω/km)									
891-9361	TT-891-9361	0.6	19/0.20	2	0.2	0.12	5.2	6.8	(1)
891-9363	TT-891-9363	0.6	19/0.20	3	0.2	0.12	5.4	7.0	(1)
891-9365	TT-891-9365	0.6	19/0.20	4	0.2	0.12	5.9	7.4	(1)
891-9367	TT-891-9367	0.6	19/0.20	7	0.2	0.12	6.7	8.5	(1)
891-9369	TT-891-9369	0.6	19/0.20	14	0.2	0.12	8.7	10.9	(1)
891-9371	TT-891-9371	0.6	19/0.20	19	0.2	0.12	10.9	13.3	(1)
Table 14 Multicore Cables - Collectively Screened 1.0mm ² (Maximum conductor resistance at 20°C 21.1Ω/km)									
892-0053	TT-892-0053	1.0	19/0.25	2	0.2	0.1	5.8	7.3	(1)
892-0054	TT-892-0054	1.0	19/0.25	3	0.2	0.12	6.15	7.65	(1)
892-0055	TT-892-0055	1.0	19/0.25	7	0.2	0.12	7.45	9.25	(1)
892-0056	TT-892-0056	1.0	19/0.25	14	0.2	0.12	9.85	12.0	(1)
Table 26 Power Cables - Collectively Screened 1.0mm ² (Maximum conductor resistance at 20°C 21.1Ω/km)									
891-9420	TT-891-9420	1.0	19/0.25	3*	0.2	0.12	6.15	7.65	(1)
Table 27 Power Cables - Collectively Screened 1.5mm ² (Maximum conductor resistance at 20°C 14.5Ω/km)									
891-9422	TT-891-9422	1.5	19/0.30	3*	0.2	0.12	6.5	8.2	(1)
Table 28 Power Cables - Collectively Screened 2.5mm ² (Maximum conductor resistance at 20°C 7.6Ω/km)									
891-9424	TT-891-9424	2.5	37/0.30	3*	0.25	0.12	8.0	9.6	(1)

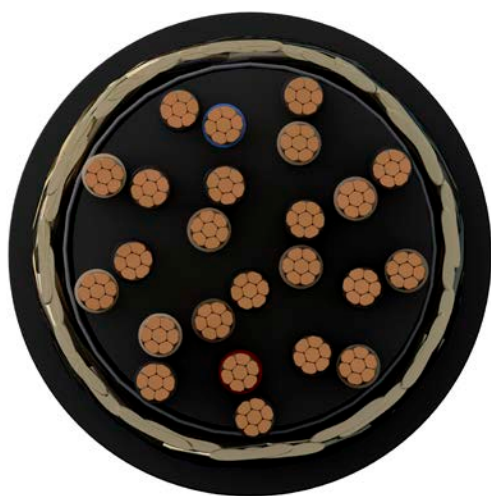
(1) Cable weight upon request

Defence Standard 61-12 Part 25 Issue 5 (previously NES525)
Collectively Screened Multi Pair Special Tratos JBA[®] Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12[®] 4

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 5 conductors according to Def Stan 61-12 Part 18

INSULATION

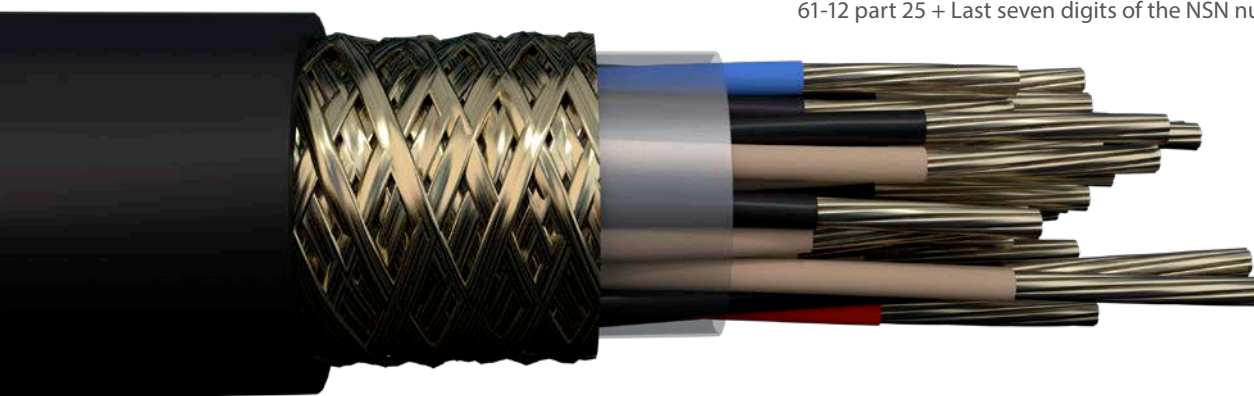
- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Collectively Screened Multi Pair Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Copper Braid Wire Size mm	Minimum O/D mm	Maximum O/D mm	Cable Weight Kg/m
Table 15 Multipair Cables - Collectively Screened 0.35mm ² (Maximum conductor resistance at 20°C 60.0Ω/km)									
892-0057	TT-892-0057	0.35	19/0.15	3	0.2	0.12	6.65	8.3	(1)
892-0058	TT-892-0058	0.35	19/0.15	5	0.2	0.12	7.8	9.6	(1)
892-0059	TT-892-0059	0.35	19/0.15	7	0.2	0.12	8.35	10.2	(1)
892-0060	TT-892-0060	0.35	19/0.15	12	0.2	0.12	10.6	12.6	(1)
892-0061	TT-892-0061	0.35	19/0.15	19	0.2	0.15	12.3	14.6	(1)
892-0062	TT-892-0062	0.35	19/0.15	27	0.2	0.15	14.55	17.0	(1)
892-0063	TT-892-0063	0.35	19/0.15	37	0.2	0.15	16.25	18.8	(1)
Table 16 Multipair Cables - Collectively Screened 1.0mm ² (Maximum conductor resistance at 20°C 21.1Ω/km)									
892-0064	TT-892-0064	1.0	19/0.25	3	0.2	0.12	8.7	10.4	(1)
892-0065	TT-892-0065	1.0	19/0.25	5	0.2	0.12	10.3	12.3	(1)
892-0066	TT-892-0066	1.0	19/0.25	7	0.2	0.12	11.1	13.1	(1)
892-0067	TT-892-0067	1.0	19/0.25	12	0.2	0.12	14.5	16.6	(1)
892-0068	TT-892-0068	1.0	19/0.25	19	0.2	0.15	16.95	19.1	(1)
892-0069	TT-892-0069	1.0	19/0.25	27	0.2	0.15	20.2	22.8	(1)

(1) Cable weight upon request



Defence Standard 61-12 Part 25 Issue 5 (previously NES525)
Individually Screened Multi Pair Special Tratos JBA[®] Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12[®] 5

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 5 conductors according to 61-12 Part 18

INSULATION

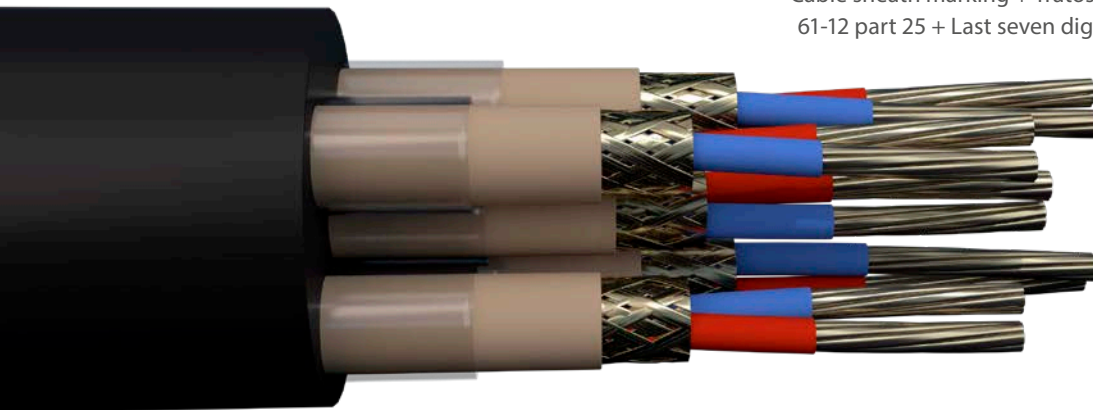
- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

SCREEN

- Tinned copper wire braid screen applied over each individual pair

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Individually Screened Multi Pair Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Copper Braid Wire Size mm	Minimum O/D mm	Maximum O/D mm	Cable Weight Kg/m
Table 17 Multipair Cables Individually Screened 0.35mm ² (Maximum conductor resistance at 20°C 60.0Ω/km)									
892-0070	TT-892-0070	0.35	19/0.15	3	0.2	0.1	8.3	10.4	(1)
892-0071	TT-892-0071	0.35	19/0.15	5	0.2	0.1	10.0	12.5	(1)
892-0072	TT-892-0072	0.35	19/0.15	7	0.2	0.12	10.8	13.5	(1)
Table 18 Multipair Cables Individually Screened 1.0mm ² (Maximum conductor resistance at 20°C 21.1Ω/km)									
892-0073	TT-892-0073	1.0	19/0.25	3	0.2	0.1	10.9	12.95	(1)
892-0074	TT-892-0074	1.0	19/0.25	5	0.2	0.1	13.3	15.4	(1)
892-0075	TT-892-0075	1.0	19/0.25	7	0.2	0.1	14.5	16.9	(1)

(1) Cable weight upon request



Defence Standard 61-12 Part 25 Issue 5 (previously NES525) Individually and Collectively Screened Multi Pair Special Tratos JBA® Limited Fire Hazard (LFH) Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12® 510

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 5 conductors according to Def Stan 61-12 Part 18

INSULATION

- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

SCREEN

- Collective tinned copper wire braid screen and tinned copper wire braid screen applied over each individual pair

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Individually/Collectively Screened Multi Pair Special Tratos JBA® LFH Insulated & Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99-51	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Minimum O/D mm	Maximum O/D mm	Cable Weight Kg/m
Table 19 Multipair Cables Individually and Collectively Screened 0.35mm ² (Maximum conductor resistance at 20°C 60.0Ω/km)								
892-0076	TT-892-0076	0.35	19/0.15	3	0.2	9.0	11.6	(1)
892-0077	TT-892-0077	0.35	19/0.15	5	0.2	10.7	13.5	(1)
892-0078	TT-892-0078	0.35	19/0.15	7	0.2	11.5	14.7	(1)
892-0079	TT-892-0079	0.35	19/0.15	12	0.2	14.2	18.8	(1)
892-0080	TT-892-0080	0.35	19/0.15	19	0.2	17.3	22.6	(1)
892-0081	TT-892-0081	0.35	19/0.15	27	0.2	20.4	26.7	(1)

(1) Cable weight upon request



Defence Standard 61-12 Part 25 Issue 5 (previously NES525)

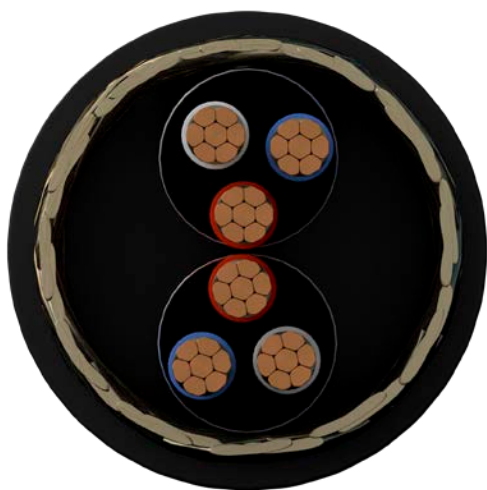
Collectively Screened Multi Triple Special Tratos JBA® Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 61-12® 5IR

- Multicore lightweight thin-wall insulated cables for power, lighting, control, communication and instrumentation circuits in Her Majesty's surface ships and submarines
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire
- Suitable for use in fixed or flexible applications where fuel, lubricating oils, hydraulic fluids and water are present

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 5 conductors according to Def Stan 61-12 Part 18

INSULATION

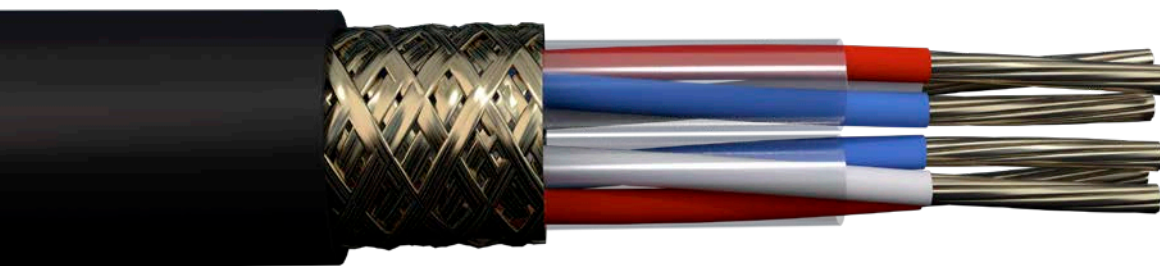
- Thin wall LFH Tratos Defence Insulation to Defence Standard 61-12 part 25

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 61-12 part 25 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to Defence Standard 02-641
- Minimum oxygen index: 30%
- Minimum temperature index: 250 °C

WORKING SPECIFICATIONS

- Voltage Rating: 600 Vrms/800 V d.c. (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 85°C maximum conductor operating temperature.
- Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C
- Minimum cable bending radius: Flexing applications 10 x overall cable diameter, fixed applications 4 x overall cable diameter.

600 Volt Collectively Screened Multi Triple Special Tratos JBA® LFH Insulated & Sheathed Cable for Military Vessels; DEF STAN 61-12 Part 25 (prev. NES525)

Nato Stock Number 6145-99	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Copper Braid Wire Size mm	Minimum O/D mm	Maximum O/D	Cable Weight Kg/m
Table 20 Multi Triple Cables Collectively Screened 0.35mm ² (Maximum conductor resistance at 20°C 60.0Ω/km)									
892-0082	TT-892-0082	0.35	19/0.15	2	0.2	0.12	7.65	9.2	(1)
892-0083	TT-892-0083	0.35	19/0.15	3	0.2	0.12	8.0	9.7	(1)
892-0084	TT-892-0084	0.35	19/0.15	4	0.2	0.15	8.75	10.4	(1)
892-0085	TT-892-0085	0.35	19/0.15	7	0.2	0.15	10.3	12.3	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)
Single Core Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526®

- Single-core cables for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
- Class 2 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA® Dual layer LFH elastomeric compound according to Defence Standard 02-526

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Single Core Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Diameter mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B1								
-8252	TT-8252	1.0	7/0.44	1	0.8	5.30	18.20	(1)
-8253	TT-8253	1.5	7/0.53	1	0.8	5.50	12.20	(1)
-8254	TT-8254	2.5	7/0.67	1	0.8	6.00	7.56	(1)
-8255	TT-8255	4.0	7/0.85	1	1.0	6.90	4.70	(1)
-8256	TT-8256	6.0	7/1.04	1	1.0	7.50	3.11	(1)
-8257	TT-8257	10.0	7/1.35	1	1.2	9.00	1.84	(1)
-8258	TT-8258	16.0	7/1.70	1	1.2	10.10	1.16	(1)
-8259	TT-8259	25.0	19/1.35	1	1.4	12.40	0.734	(1)
-8260	TT-8260	35.0	19/1.53	1	1.4	13.30	0.529	(1)
-8261	TT-8261	50.0	19/1.78	1	1.6	15.20	0.391	(1)
-8262	TT-8262	70.0	19/2.14	1	1.6	17.20	0.270	(1)
-8263	TT-8263	95.0	37/1.78	1	1.8	19.30	0.195	(1)
-8264	TT-8264	120.0	37/2.03	1	1.8	21.40	0.154	(1)
-8265	TT-8265	150.0	37/2.25	1	2.0	23.50	0.126	(1)
-8266	TT-8266	185.0	37/2.52	1	2.2	26.00	0.100	(1)
-8277	TT-8277	240.0	61/2.25	1	2.4	29.20	0.0762	(1)
-8278	TT-8278	300.0	61/2.52	1	2.6	32.30	0.0607	(1)
-8279	TT-8279	400.0	91/2.36	1	2.8	36.40	0.0475	(1)
-8280	TT-8280	500.0	91/2.65	1	3.0	40.20	0/0369	(1)
-8281	TT-8281	630.0	127/2.52	1	3.0	44.10	0.0286	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)

Multi Core Special Tratos JBA[®] Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526[®]

- Multi-core cables for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
- Class 2 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA[®] Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Multi Core Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B5								
-8275	TT-8275	4.0	7/0.85	2	1.0	12.00	4.70	(1)
-8276	TT-8276	6.0	7/1.04	2	1.0	13.10	3.11	(1)
-8277	TT-8277	10.0	7/1.35	2	1.2	16.00	1.84	(1)
-8278	TT-8278	16.0	7/1.70	2	1.2	18.30	1.16	(1)
-8279	TT-8279	25.0	19/1.35	2	1.4	22.90	0.734	(1)
-8280	TT-8280	35.0	19/1.53	2	1.4	24.70	0.529	(1)
-8281	TT-8281	50.0	19/1.78	2	1.6	28.40	0.391	(1)
-8282	TT-8282	70.0	19/2.14	2	1.6	32.30	0.270	(1)
-8283	TT-8283	95.0	37/1.78	2	1.8	37.00	0.195	(1)
-8284	TT-8284	120.0	37/2.03	2	1.8	40.80	0.154	(1)
-8285	TT-8285	150.0	37/2.25	2	2.0	45.10	0.126	(1)
-8289	TT-8289	4.0	7/0.85	3	1.0	12.70	4.70	(1)
-8290	TT-8290	6.0	7/1.04	3	1.0	13.90	3.11	(1)
-8291	TT-8291	10.0	7/1.35	3	1.2	17.20	1.84	(1)
-8292	TT-8292	16.0	7/1.70	3	1.2	19.50	1.16	(1)
-8293	TT-8293	25.0	19/1.35	3	1.4	24.40	0.734	(1)
-8294	TT-8294	35.0	19/1.53	3	1.4	26.50	0.529	(1)
-8295	TT-8295	50.0	19/1.78	3	1.6	30.30	0.391	(1)
-8296	TT-8296	70.0	19/2.14	3	1.6	34.70	0.270	(1)
-8297	TT-8297	95.0	37/1.78	3	1.8	39.70	0.195	(1)
-8297	TT-8297	120.0	37/2.03	3	1.8	43.80	0.154	(1)
-8299	TT-8299	150.0	37/2.25	3	2.0	48.40	0.126	(1)
-8300	TT-8300	185.0	37/2.52	3	2.2	53.90	0.100	(1)
-8301	TT-8301	240.0	61/2.25	3	2.4	61.10	0.0762	(1)
-8453	TT-8453	4.0	7/0.85	4	1.0	13.90	4.70	(1)
-8454	TT-8454	4.0	7/0.85	5	1.0	15.30	4.70	(1)
-8456	TT-8456	4.0	7/0.85	10	1.0	21.80	4.70	(1)
-8458	TT-8458	4.0	7/0.85	19	1.0	26.70	4.70	(1)
-8459	TT-8459	4.0	7/0.85	24	1.0	31.80	4.70	(1)
-8461	TT-8461	4.0	7/0.85	37	1.0	36.70	4.70	(1)
-8449	TT-8449	2.5	7/0.85	37	1.0	29.40	7.56	(1)
-8450	TT-8450	2.5	7/0.67	44	0.8	33.50	7.56	(1)
-8438	TT-8438	1.00	1/1.13	1	0.8	25.80	18.20	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)
Single Core Special Tratos JBA[®] Flexible Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526[®]

- Single core cables having flexible conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Bunched or multiple stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA[®] Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Single Core Special Tratos JBA® Flexible LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B2								
-8326	TT-8326	1.0	32/0.2	1	0.80	4.80	20.00	(1)
-8327	TT-8327	1.5	30/0.25	1	0.80	5.10	13.70	(1)
-8328	TT-8328	2.5	50/0.25	1	0.90	5.70	8.21	(1)
-8329	TT-8329	4.0	56/0.3	1	1.0	6.50	5.09	(1)
-8330	TT-8330	6.0	84/0.3	1	1.0	8.30*	3.39	(1)
-8331	TT-8331	10.0	80/0.4	1	1.2	9.80*	1.95	(1)
-8332	TT-8332	16.0	126/0.4	1	1.2	10.90*	1.24	(1)
-8333	TT-8333	25.0	196/0.4	1	1.4	13.50*	0.795	(1)
-8334	TT-8334	35.0	276/0.4	1	1.4	14.90*	0.565	(1)
-8335	TT-8335	50.0	396/0.4	1	1.6	17.40*	0.393	(1)
-8336	TT-8336	70.0	360/0.5	1	1.6	19.70*	0.277	(1)
-8337	TT-8337	95.0	475/0.5	1	1.8	22.70*	0.210	(1)
-8484	TT-8484	150.0	756/0.5	1	2.0	27.00*	0.132	(1)
-8485	TT-8485	185.0	925/0.5	1	2.2	29.60*	0.108	(1)
-8338	TT-8338	240.0	1221/0.5	1	2.4	33.50*	0.0817	(1)
523-2806	TT-523-2806	300.0	1525/0.5	1	2.6	37.20*	0.0654	(1)
-8339	TT-8339	630.0	2257/0.6	1	3.0	50.20*	0.0292	(1)

(1) Cable weight upon request

* Denotes maximum cable diameter specified in Defence Standard 02-526



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)
Multi Core Special Tratos JBA® Flexible Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526®

- Multicore cables having flexible conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Bunched or multiple stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA® Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating: 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

* If optional binder tape is used over laid up cores, diameter is increased by 0.3mm.

440 Volt Multi Core Special Tratos JBA® Flexible LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B7								
-8486	TT-8486	1.0	32/0.20	2	0.80	8.50	20.40	(1)
-8487	TT-8487	1.0	32/0.20	2	0.80	9.10	13.97	(1)
-8488	TT-8488	2.5	50/0.25	2	0.90	10.60	8.37	(1)
-8345	TT-8345	4.0	56/0.30	2	1.00	12.40	5.19	(1)
-8489	TT-8489	2.5	50/0.25	3	0.90	11.20	8.37	(1)
-8351	TT-8351	4.0	56/0.30	3	1.00	13.10	5.19	(1)
-8490	TT-8490	6.0	84/0.30	3	1.00	16.40*	3.46	(1)
-8491	TT-8491	16.0	126/0.40	3	1.20	30.70*	1.27	(1)
-8492	TT-8492	35.0	276/0.40	3	1.40	38.70*	0.576	(1)
-8493	TT-8493	95.0	475/0.50	3	1.80	55.90*	0.214	(1)
-8494	TT-8494	2.5	50/0.25	4	0.90	12.40	8.37	(1)
-8495	TT-8495	4.0	56/0.30	4	0.90	14.50	5.19	(1)
-8496	TT-8496	2.5	50/0.25	5	0.90	13.40	8.37	(1)
-8497	TT-8497	1.5	30/0.25	8	0.80	16.20	13.97	(1)
-8500	TT-8500	2.5	50/0.25	10	0.90	20.20	8.37	(1)
-8501	TT-8501	4.0	56/0.30	10		23.70	5.19	(1)
-8502	TT-8502	1.5	30/0.25	15	0.80	20.20	13.97	(1)
-8503	TT-8503	2.5	50/0.25	15	0.90	23.30	8.37	(1)
-8504	TT-8504	1.5	30/0.25	22	0.80	25.10	13.97	(1)
-8505	TT-8505	2.5	50/0.25	22	0.90	29.10	8.37	(1)
-8506	TT-8506	1.5	30/0.25	30	0.80	26.70	13.97	(1)
-8507	TT-8507	2.5	50/0.25	30	0.90	31.10	8.37	(1)
-8508	TT-8508	2.5	50/0.25	36	0.90	33.70	8.37	(1)

(1) Cable weight upon request

* Denotes maximum cable diameter specified in Defence Standard 02-526



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)
Multi Core Degaussing Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526®

- Multicore cables having stranded conductors for degaussing control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
- Class 2 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA® Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

* If optional binder tape is used over laid up cores, diameter is increased by 0.3mm.

440 Volt Multi Core Degaussing Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B6								
-8402	TT-8402	4	7/0.85	7	1.0	16.7	4.70	(1)
-8403	TT-8403	6	7/1.04	7	1.0	18.6	3.11	(1)
-8404	TT-8404	10	7/1.35	7	1.2	23.1	1.84	(1)
-8405	TT-8405	16	7/1.70	7	1.2	26.5	1.16	(1)
-8406	TT-8406	25	19/1.35	7	1.4	33.1	0.734	(1)
-8407	TT-8407	35	19/1.53	7	1.4	36.2	0.529	(1)
-8408	TT-8408	50	19/1.78	7	1.6	41.5	0.391	(1)
-8409	TT-8409	70	19/2.14	7	1.6	47.5	0.270	(1)
-8410	TT-8410	4	7/0.85	14	1.0	23.9	4.70	(1)
-8411	TT-8411	6	7/1.04	14	1.0	26.6	3.11	(1)
-8412	TT-8412	10	7/1.35	14	1.2	33.0	1.84	(1)
-8413	TT-8413	16	7/1.70	14	1.2	38.0	1.16	(1)
-8414	TT-8414	25	19/1.35	14	1.4	48.0	0.734	(1)
-8415	TT-8415	2.5	7/0.67	18	0.8	21.6	7.56	(1)
-8416	TT-8416	4	7/0.85	18	1.0	26.7	4.70	(1)
-8417	TT-8417	6	7/1.04	18	1.0	29.8	3.11	(1)
-8418	TT-8418	10	7/1.35	18	1.2	37.1	1.84	(1)
-8419	TT-8419	16	7/1.70	18	1.2	42.9	1.16	(1)
-8420	TT-8420	2.5	7/0.67	30	0.8	27.1	7.56	(1)
-8421	TT-8421	4	7/0.85	30	1.0	33.9	4.70	(1)
-8422	TT-8422	6	7/1.04	30	1.0	37.7	3.11	(1)
-8423	TT-8423	10	7/1.35	30	1.2	47.2	1.84	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)

Multi Core Collectively Screened Flexing Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526®

- Multicore cables having flexible conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Bunched or multiple stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

- Special Tratos Defence JBA® Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Multi Core Collectively Screened Flexing Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Braid Wire Size mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B8									
-8509	TT-8509	2.5	50/0.25	2	0.9	13.0	7/0.15	8.37	(1)
-8510	TT-8510	1.0	32/0.2	3	0.8	11.5	7/0.15	20.4	(1)
-8511	TT-8511	2.5	50/0.25	3	0.9	13.6	7/0.15	8.37	(1)
-8512	TT-8512	2.5	50/0.25	4	0.9	14.8	7/0.15	8.37	(1)
-8513	TT-8513	0.75	24/0.2	8	0.8	17.8	14/0.15	27.23	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)

Multi Core Individually Screened Flexible Special Tratos JBA[®] Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526[®]

- Multicore cables having flexible conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Bunched or multiple stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

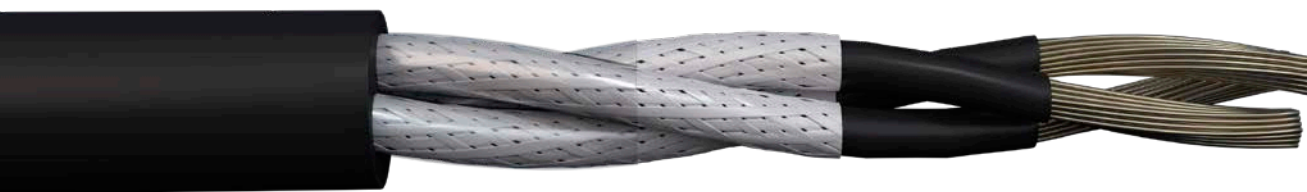
- Special Tratos Defence JBA[®] Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

SCREEN

- Composite tinned copper - nylon braid applied over each individual core

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Multi Core Individually Screened Flexible Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Copper Braid Wire Size mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B9									
-8470	TT-8470	0.75	24/0.2	3	0.8	10.9	0.2	26.70	(1)
-8471	TT-8471	0.75	24/0.2	5	0.8	13.2	0.2	26.70	(1)
-8472	TT-8472	0.75	24/0.2	7	0.8	15.9	0.2	26.70	(1)
-8473	TT-8473	0.75	24/0.2	14	0.8	20.3	0.2	26.70	(1)
-8474	TT-8474	0.75	24/0.2	19	0.8	24.2	0.2	26.70	(1)

(1) Cable weight upon request



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)
Multi Core Collectively Screened Special Tratos JBA[®] Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526[®]

- Multicore cables having stranded conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

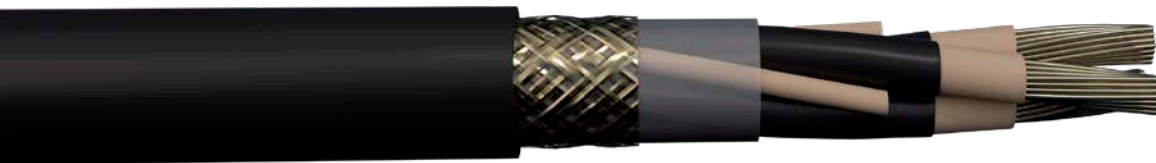
- Special Tratos Defence JBA[®] Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification, cores shall be number printed

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-526 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Multi Core Collectively Screened Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B10								
521-8463	TT-521-8463	TT-521-8463	7/0.85	2	1.0	13.4	4.70	(1)
521-8464	TT-521-8464	TT-521-8464	7/1.70	2	1.2	20.5	1.16	(1)
531-0227	TT-531-0227	TT-531-0227	7/1.35	3	1.2	18.7	1.84	(1)
531-0228	TT-531-0228	TT-531-0228	7/1.70	3	1.2	21.9	1.16	(1)
531-0229	TT-531-0229	TT-531-0229	19/1.35	3	1.4	26.7	0.734	(1)
531-0230	TT-531-0230	TT-531-0230	19/1.53	3	1.4	28.8	0.529	(1)
531-0231	TT-531-0231	TT-531-0231	19/1.78	3	1.6	33.3	0.391	(1)
521-8530	TT-521-8530	TT-521-8530	32/0.2	4	1.6	15.4	20.00	(1)
521-8466	TT-521-8466	TT-521-8466	7/0.67	4	0.8	13.0	7.56	(1)
521-8531	TT-521-8531	TT-521-8531	84/0.3	4	1.0	27.2*	3.39	(1)
531-7042	TT-531-7042	TT-531-7042	16/0.2	19	0.8	18.3	40.10	(1)
531-7043	TT-531-7043	TT-531-7043	16/0.2	27	0.8	21.3	40.10	(1)
531-7044	TT-531-7044	TT-531-7044	16/0.2	37	0.8	24.5	40.10	(1)

(1) Cable weight upon request

* Maximum overall diameter:

Cables 531-0227 to 531-0231 have minimum braid filling factor of 0.7.

Cables 521-8530 and 521-8531 are coloured: brown, yellow, blue, green.

Cable 521-8530 rated at 750 V. Cable 521-8531 rated at 1100 V.



Defence Standard 02-526 Issue 2 Amendment 1 (prev. NES526)

Multi Core Collectively Screened Flexible Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-526®

- Multicore cables having flexible conductors for power, lighting, control circuits in Her Majesty's surface ships and vessels.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.
- For use in fixed applications and suitable for use where fuel, lubricating oils, hydraulic fluids and water are present.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Bunched or multiple stranded tinned annealed copper wires
- Class 5 conductors according to BS EN 60228

INSULATION

- Black special Tratos Defence JBA® Dual layer LFH elastomeric compound according to Defence Standard 02-526
- Core Identification: 2 core - blue, brown 3 core - green/yellow, blue, brown 4 core - green/yellow, black, blue, brown 5 core - green/yellow, black, blue, brown, black 7 core - cores shall be number printed

SCREEN

- Collective tinned copper wire braid screen



FIRE PERFORMANCE

- Flame retardant to BS EN 60332-1-2 for completed cables with individual conductor size less than 4.0mm²
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 90°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

440 Volt Multi Core Collectively Screened Flexible Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-526 (prev. NES526)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table B4								
521-8364	TT-521-8364	0.5	16/0.20	1	0.8	5.6	40.10	(1)
521-8366	TT-521-8366	1.0	32/0.20	1	0.8	6.0	20.00	(1)
521-8367	TT-521-8367	1.5	30/0.25	1	0.8	6.3	13.70	(1)
521-8368	TT-521-8368	2.5	50/0.25	1	0.9	6.9	8.21	(1)
521-8369	TT-521-8369	4.0	56/0.30	1	1.0	7.7	5.09	(1)
521-8370	TT-521-8370	6.0	84/0.30	1	1.0	9.5*	3.39	(1)
521-8371	TT-521-8371	0.50	16/0.2	2	0.8	8.3	40.10	(1)
521-8373	TT-521-8373	1.5	32/0.2	2	0.8	9.1	20.00	(1)
521-8374	TT-521-8374	1.5	30/0.25	2	0.8	9.9	13.70	(1)
521-8375	TT-521-8375	2.5	50/0.25	2	0.9	11.4	8.21	(1)
521-8376	TT-521-8376	0.5	16/0.2	3	0.8	8.7	40.10	(1)
521-8378	TT-521-8378	1.5	32/0.2	3	0.8	9.8	20.00	(1)
521-8379	TT-521-8379	2.0	30/0.25	3	0.8	10.4	13.70	(1)
521-8381	TT-521-8381	0.75	24/0.2	4	0.8	10.4	26.70	(1)
521-8382	TT-521-8382	0.5	16/0.2	5	0.8	10.3	40.10	(1)
521-8383	TT-521-8383	0.5	16/0.2	7	0.8	12.2	40.10	(1)

(1) Cable weight upon request

*Denotes the maximum cable diameter in Defence Specification 02-526

Single core cable: Insulation colour Blue.

Two core cable: Insulation colours Blue and Brown.

Three core cable: Insulation colours Blue, Brown and Green/Yellow.

Four core cable : Insulation colours Blue, Brown, Green and Yellow.

Five core cable Insulation colours Blue, Brown, Black, Green and Yellow.

NSN 521-8383, cores are insulated white with printed numbers.



Defence Standard 02-527 Issue 1 (previously NES527)

Single Core Silicone Insulated Special Tratos JBA® Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527®

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 2 conductors according to BS EN 60228

INSULATION

- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Single Core Silicone Insulated Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-527 (prev. NES527)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Current Rating A mm	Maximum Conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C1									
-6808	TT-6808	1.0	7/0.44	1	0.5	5.60	17	18.2	(1)
-6809	TT-6809	1.5	7/0.53	1	0.5	5.90	23	12.2	(1)
-6810	TT-6810	2.5	7/0.67	1	0.6	6.50	33	7.56	(1)
-6811	TT-6811	4.0	7/0.85	1	0.6	7.00	43	4.70	(1)
-6812	TT-6812	6.0	7/1.04	1	0.7	7.80	55	3.11	(1)
-6813	TT-6813	10.0	19/0.85	1	0.9	9.30	79	1.84	(1)
-6814	TT-6814	16.0	19/1.04	1	0.9	10.30	100	1.16	(1)
-6815	TT-6815	25.0	19/1.35	1	1.1	11.90	140	0.734	(1)
-6816	TT-6816	35.0	19/1.53	1	1.1	12.80	165	0.529	(1)
-6817	TT-6817	50.0	19/1.78	1	1.1	14.10	200	0.391	(1)
-6818	TT-6818	70.0	19/2.14	1	1.1	16.20	250	0.270	(1)
-6819	TT-6819	95.0	37/1.78	1	1.4	18.70	315	0.195	(1)
-6820	TT-6820	120.0	37/2.03	1	1.4	20.90	380	0.154	(1)
-6821	TT-6821	150.0	37/2.25	1	1.4	22.40	420	0.126	(1)
-6822	TT-6822	185.0	37/2.52	1	1.4	24.50	480	0.100	(1)
-6823	TT-6823	240.0	61/2.25	1	1.4	27.30	560	0.0762	(1)
-6824	TT-6824	300.0	61/2.52	1	1.4	29.90	660	0.0607	(1)
							d.c./a.c.		
-6825	TT-6825	400.0	91/2.36	1	1.4	33.60	800/790	0.0475	(1)
-6826	TT-6826	500.0	91/2.65	1	1.4	37.20	940/890	0.0369	(1)
-6827	TT-6827	630.0	127/2.52	1	1.4	41.40		0.0286	(1)

(1) Cable weight upon request



Defence Standard 02-527 Issue 1 (previously NES527)

Single and Multipair Core Silicone Insulated Special Tratos JBA[®] Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527[®]

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 2 conductors according to BS EN 60228

INSULATION

- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Single and Multipair Core Silicone Insulated Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-527 (prev. NES527)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C5								
-6910	TT-6910	1.0	7/0.44	1	0.5	9.10	18.20	(1)
-6911	TT-6911	1.0	7/0.44	2	0.5	14.30	18.20	(1)
-6912	TT-6912	1.0	7/0.44	3	0.5	15.20	18.20	(1)
-6913	TT-6913	1.0	7/0.44	4	0.5	15.80	18.20	(1)
-6914	TT-6914	1.0	7/0.44	7	0.5	18.70	18.20	(1)
-6915	TT-6915	1.0	7/0.44	11	0.5	25.00	18.20	(1)
-6916	TT-6916	1.0	7/0.44	16	0.5	27.60	18.20	(1)
-6917	TT-6917	1.0	7/0.44	19	0.5	29.00	18.20	(1)

(1) Cable weight upon request



Defence Standard 02-527 Issue 1 (previously NES527)

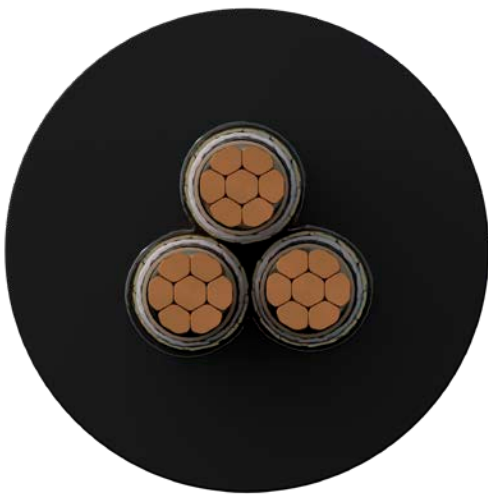
Multi Core Individually Screened Special Tratos JBA[®] Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527[®]

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 2 conductors according to BS EN 60228

INSULATION

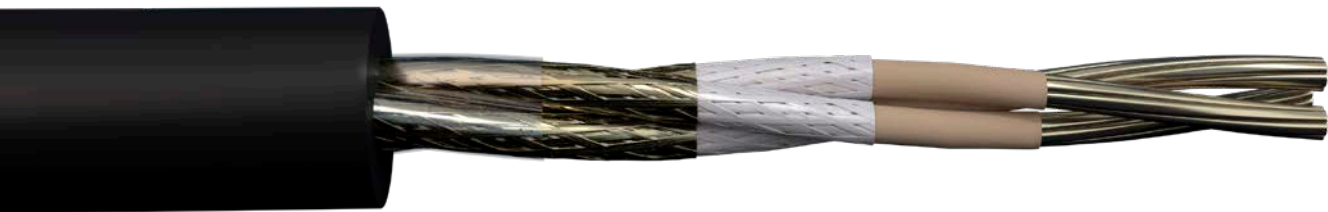
- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

SCREEN

- Tinned copper wire braid screen applied over each individual core

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Multi Core Individually Screened Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-527 (prev. NES527)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C6								
-6918	TT-6918	1.0	7/0.44	3	0.5	11.10	17	(1)
-6919	TT-6919	1.0	7/0.44	5	0.5	13.00	17	(1)
-6920	TT-6920	1.0	7/0.44	7	0.5	15.50	17	(1)
-6921	TT-6921	1.0	7/0.44	14	0.5	19.60	17	(1)
-6922	TT-6922	1.0	7/0.44	18	0.5	22.20	17	(1)

(1) Cable weight upon request



Defence Standard 02-527 Issue 1 (previously NES527)

Multi Pair Individually Screened Special Tratos JBA® Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527®

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 2 conductors according to BS EN 60228

INSULATION

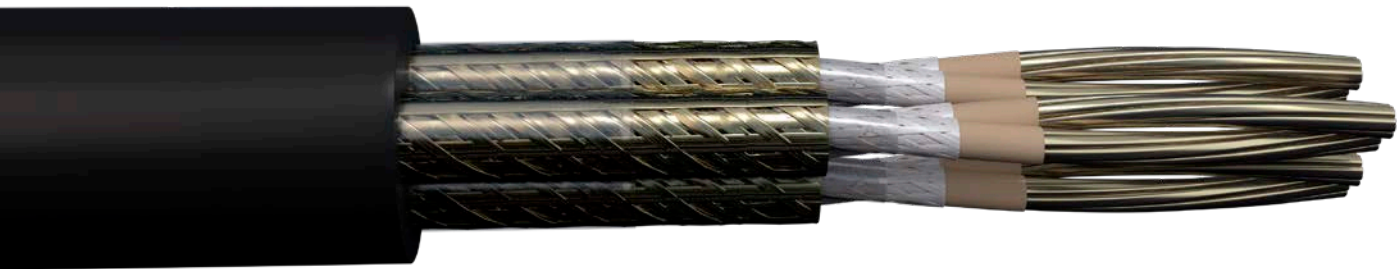
- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

SCREEN

- Tinned copper wire braid screen applied over each individual pair

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Multi Pair Individually Screened Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-527 (previously NES527)

Nato Stock Number 6145-99-51	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C7								
-6924	TT-6924	1.0	7/0.44	3	0.5	14.90	18.20	(1)
-6925	TT-6925	1.0	7/0.44	4	0.5	16.30	18.20	(1)
-6926	TT-6926	1.0	7/0.44	7	0.5	19.70	18.20	(1)

(1) Cable weight upon request



Defence Standard 02-527 Issue 1 (previously NES527)

Multi Core Collectively Screened Silicone Insulated Special Tratos JBA® Limited Fire Hazard (LFH)
Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527®

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
Class 2 conductors according to BS EN 60228

INSULATION

- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

SCREEN

- Collective tinned copper wire braid screen

OUTER SHEATH

- Special Tratos Defence JBA® Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Multi Core Collectively Screened Silicone Insulated Special Tratos JBA® LFH Insulated and Sheathed Cable for Military Vessels; DEF STAN 02-527 (prev. NES527)

Nato Stock Number 6145-99-51	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C8								
-6928	TT-6928	1.0	7/0.44	8	0.5	14.40	18.20	(1)
-6929	TT-6929	1.0	7/0.44	12	0.5	16.00	18.20	(1)
-6930	TT-6930	1.0	7/0.44	14	0.5	16.70	18.20	(1)
-6931	TT-6931	2.5	7/0.67	4	0.6	13.00	7.56	(1)
-6932	TT-6932	4.0	7/0.85	2	0.6	12.60	4.70	(1)
-5869	TT-5869	10.0	19/0.85	2	0.9	17.70	1.84	(1)

(1) Cable weight upon request



Defence Standard 02-527 Issue 1 (previously NES527)

Miniature Multi Core Silicone Insulated Special Tratos JBA[®] Limited Fire Hazard (LFH)

Insulated and Sheathed Cable for Military Vessels

TRATOS-MOD 02-527[®]

- Fire resistant cable for power, control, lighting use in Her Majesty's military vessels where the cable is required to retain circuit integrity in the event of a fire, for emergency lighting, alarms and shutdown systems.
- Incorporates Limited Fire Hazard (LFH) insulation and sheath for reduced levels of smoke and toxic fumes in the event of a fire.

FEATURES AND PERFORMANCES



CONSTRUCTION

- Stranded tinned annealed copper wires
- Class 2 conductors according to BS EN 60228

INSULATION

- extruded silicone rubber insulation + fibreglass braid and lacquer
- Cores shall be number printed

OUTER SHEATH

- Special Tratos Defence JBA[®] Black LFH elastomeric compound according to Defence Standard 61-12 part 31
- Cable sheath marking + Tratos + year of manufacture + Def Stan 02-527 + Last seven digits of the NSN number



FIRE PERFORMANCE

- Meets 3 hour 750°C fire test (identical to IEC60331)
- BS EN 60332-3-23 NMV 3.5 (IEC60332-3-23 Category B) as a minimum, for completed cables with individual conductor sizes 4.0mm² and greater

In addition, the outer sheath also displays the following characteristics:

- Minimum oxygen index: 30%
- Minimum temperature index: 250°C

WORKING SPECIFICATIONS

- Voltage Rating: 440 volts (between cores, or between cores and ships structure, or between cores and cable screen)
- Temperature Rating 105°C maximum conductor operating temperature

Note: Cables also retain a degree of flexibility under weather deck conditions of -30°C

Multi Core Silicone Insulated Special Tratos JBA® LFH Insulated & Sheathed Cable for Military Vessels
Un-screened/Individually Screened/Collectively Screened; DEF STAN 02-527 (prev. NES527)

Nato Stock Number 6145-99-521	Tratos Part Number	Nominal Conductor Area mm ²	Nominal Conductor Stranding mm	Number of Conductors	Insulation Thickness mm	Nominal Overall Diameter mm	Maximum conductor Resistance @ 20°C Ω/km	Cable Weight Kg/m
Table C9 - unscreened only								
-6970	TT-6970	0.35	19/0.15	2	0.35	6.20	60.0	(1)
-6973	TT-6973	0.35	19/0.15	3	0.35	6.50	60.0	(1)
-6976	TT-6976	0.35	19/0.15	4	0.35	7.00	60.0	(1)
-6979	TT-6979	0.35	19/0.15	6	0.35	8.10	60.0	(1)
-6982	TT-6982	0.35	19/0.15	12	0.35	10.40	60.0	(1)
-6985	TT-6985	0.35	19/0.15	18	0.35	12.30	60.0	(1)
-6988	TT-6988	0.35	19/0.15	25	0.35	14.10	60.0	(1)
-6992	TT-6992	0.35	19/0.15	60	0.35	20.40	60.0	(1)
Table C10 - collectively screened only								
-6971	TT-6971	0.35	19/0.15	2	0.35	7.00	60.0	(1)
-6974	TT-6974	0.35	19/0.15	3	0.35	7.30	60.0	(1)
-6977	TT-6977	0.35	19/0.15	4	0.35	7.80	60.0	(1)
-6980	TT-6980	0.35	19/0.15	6	0.35	9.00	60.0	(1)
-6983	TT-6983	0.35	19/0.15	12	0.35	11.30	60.0	(1)
-6986	TT-6986	0.35	19/0.15	18	0.35	13.30	60.0	(1)
-6989	TT-6989	0.35	19/0.15	25	0.35	15.30	60.0	(1)
-6991	TT-6991	0.35	19/0.15	36	0.35	17.50	60.0	(1)
-6993	TT-6993	0.35	19/0.15	60	0.35	21.60	60.0	(1)
Table C9 - individually screened only								
-6972	TT-6972	0.35	19/0.15	2	0.35	7.40	60.0	(1)
-6975	TT-6975	0.35	19/0.15	3	0.35	7.80	60.0	(1)
-6978	TT-6978	0.35	19/0.15	4	0.35	8.40	60.0	(1)
-6981	TT-6981	0.35	19/0.15	6	0.35	10.10	60.0	(1)
-6984	TT-6984	0.35	19/0.15	12	0.35	13.20	60.0	(1)
-6987	TT-6987	0.35	19/0.15	18	0.35	15.50	60.0	(1)
-6990	TT-6990	0.35	19/0.15	25	0.35	18.20	60.0	(1)

(1) Cable weight upon request



Tratos' innovative fibre-optic cabling systems prove vital for Naval Defence



A new and bespoke fibre-optic cabling system by Tratos allows the Finmeccanica Group to launch Black Shark – new generation heavyweight torpedo able to counter the most challenging threats posed by any type of surface or underwater target for the next 30 years.

To provide a cabling systems able to exceed the limitations of a sub-surface setup, Tratos' technicians had overcome the existing limits of cable technology. The final product provided by Tratos is able to withstand extremely high-pressure conditions whilst ensuring a communications distance of at least 50km using one, single length of fibre-optic cabling.

Black Shark, the brain child of Finmeccanica's founder, Robert Whitehead, and the long-awaited result of years of technological research and was tested overnight on the 30/31st October. A team combining technicians from the Malaysian Marines and Finmeccanica-WASS has been able to engineer this innovative device with help from bespoke cabling system by Tratos.

Considered the most advanced multi-purpose weapon designed to be launched from submarines, surface vessels or land stations, Black Shark is now being employed within the defence sector of the Malaysian Marines.

For the technicians at Tratos this proves to be undeniable recognition of their ability to set the standard in global cable manufacturing. The use of the company's cabling systems and the technical support of its technicians did not merely extend to this project – the fibre optic cabling manufactured by Tratos for the sub-surface communication, combined with that which was used within the mechanism, follows on from involvement within another Finmeccanica project in 2013 – an innovative, compact and lightweight torpedo detection system for the British Navy.

Tratos' fibre-optic cabling system, along with its technical support, has been of undeniable use within the international naval defence industry, providing the security sector with efficient, safe, high-quality and innovative technology.





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