



SOLUTIONS FOR SPECIAL CABLES

WTM TAPING KNOW-HOW

Application sectors

AEROSPACE CABLES

APPLICATIONS

- ✓ Military defense applications (land, sea, air & space)
- ✓ Aeronautical applications (aircraft, helicopters, etc.)
- ✓ Microwave interconnections (antennas, instruments, radar, transponders, etc.)
- ✓ Aerospace and satellite platforms



TAPING MATERIALS

- ✓ PTFE
- ✓ ePTFE
- ✓ Polyimide
- ✓ Mica and fiber-glass



AEROSPACE CABLES

STRENGTH POINTS

The taping line is designed to highly perform and ensure the process quality by:

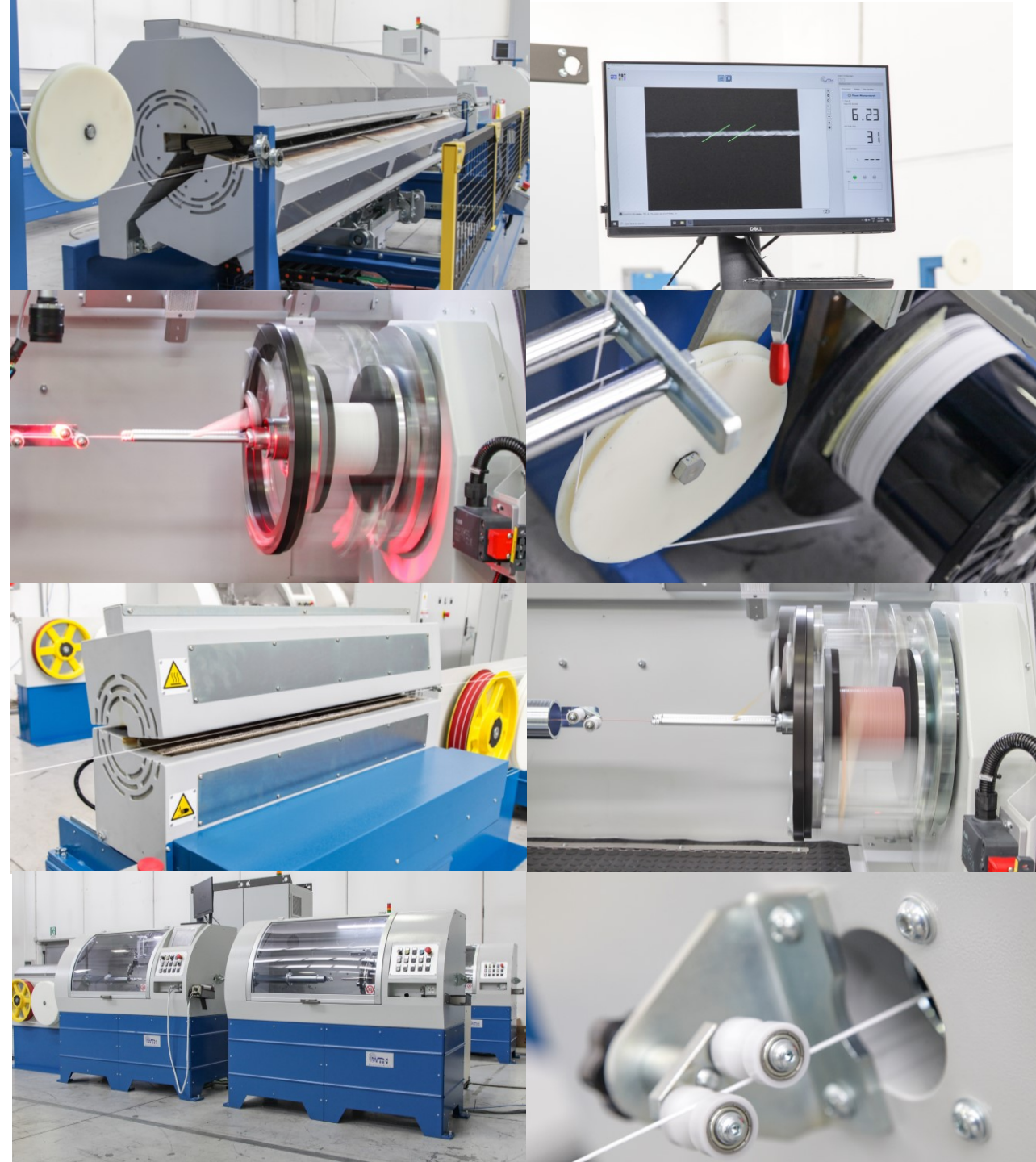
- ✓ Accurate cable tension control, by using pay-off and take up with dancer tension control.
- ✓ Precise tape tension control, by using a 3-motor heads provided by dynamic concentric dancer to reach low and constant tension values.
- ✓ Consistent taping process with an in-line continuous control based on WTM VISIO quality control system and statistical analysis.
- ✓ In-line or off-line sintering process to grant the cable insulation performance.
- ✓ In-line quality control using lasers-gauges, spark-tester, load-cells, cameras, etc.



AEROSPACE CABLES

MAIN SPECS

		Min.	Max.
Wire dimension range :	AWG		
- small machine	(mm)	30 (0,25)	12 (2,05)
- medium machine		20 (0,81)	6 (4,11)
- large machine		6 (4,11)	000 (15)
Tape tension range	N		
- small machine		1.5	8
- medium machine		3	15
- large machine		5	40
Tape width range	mm		
- small machine		1,5	5
- medium machine		4	15
- large machine		12	40
Taping head speed	Rpm	1500	2500
Sintering temperature	°C	350	700
Taping line linear speed	m/min	10	30



LL & HF COAXIAL CABLES

APPLICATIONS

- ✓ Military defense applications (land, sea, air & space)
- ✓ Wireless and cellular communications
- ✓ High frequency radio communication systems
- ✓ Antenna distribution systems

TAPING MATERIALS

- ✓ ePTFE
- ✓ Silver plated copper (SPC)



LL & HF COAXIAL CABLES

STRENGTH POINTS

The taping line is specifically engineered to reach the high quality performance:

- ✓ Accurate wire tension control, with sensors close loop feedback, and specific configuration according the cable specs .
- ✓ Extremely precise and accurate tape wrapping and tension control, by using the dynamic dancer to reach very-low and constant tension values and grant them along the time.
- ✓ Accurate taping process with an in-line continuous control based on WTM VISIO quality control and statistical analysis in-line and post process by SCOPE data analysis software.
- ✓ Specific pulling units to avoid cable bending, deflection, ovalization.

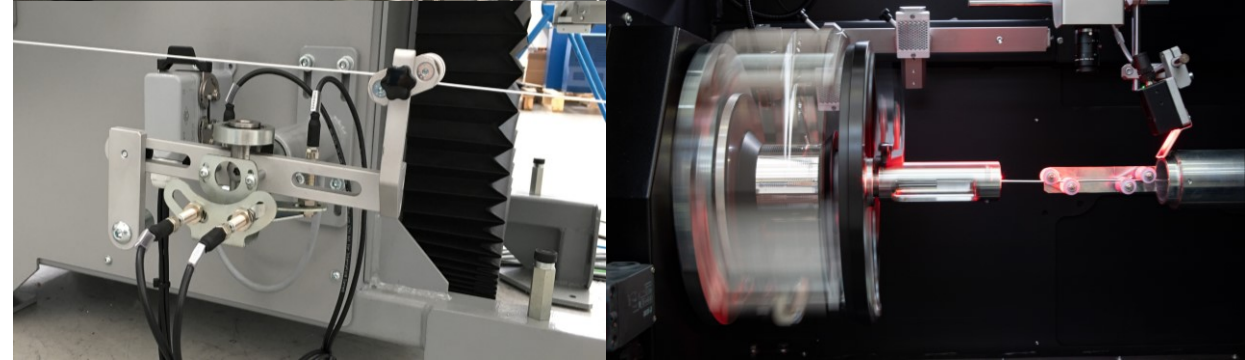


LL & HF COAXIAL CABLES

MAIN SPECS

		Min.	Max.
Wire dimension range - small machine - large machine	inches (mm)	0.026 (0.66) 0.120 (3.05)	0.120 (3.05) 0.270 (6.85)
Tape tension range - small machine - large machine	N	1,5 3	15 25
Tape width range - small machine - large machine	inches (mm)	0.040 (1.01) 0.100 (2.54)	0.120 (3.05) 0.160 (4.06)
Taping head speed	Rpm	-	1500
Taping line linear speed	m/min	1	10

Standard values, others on request.



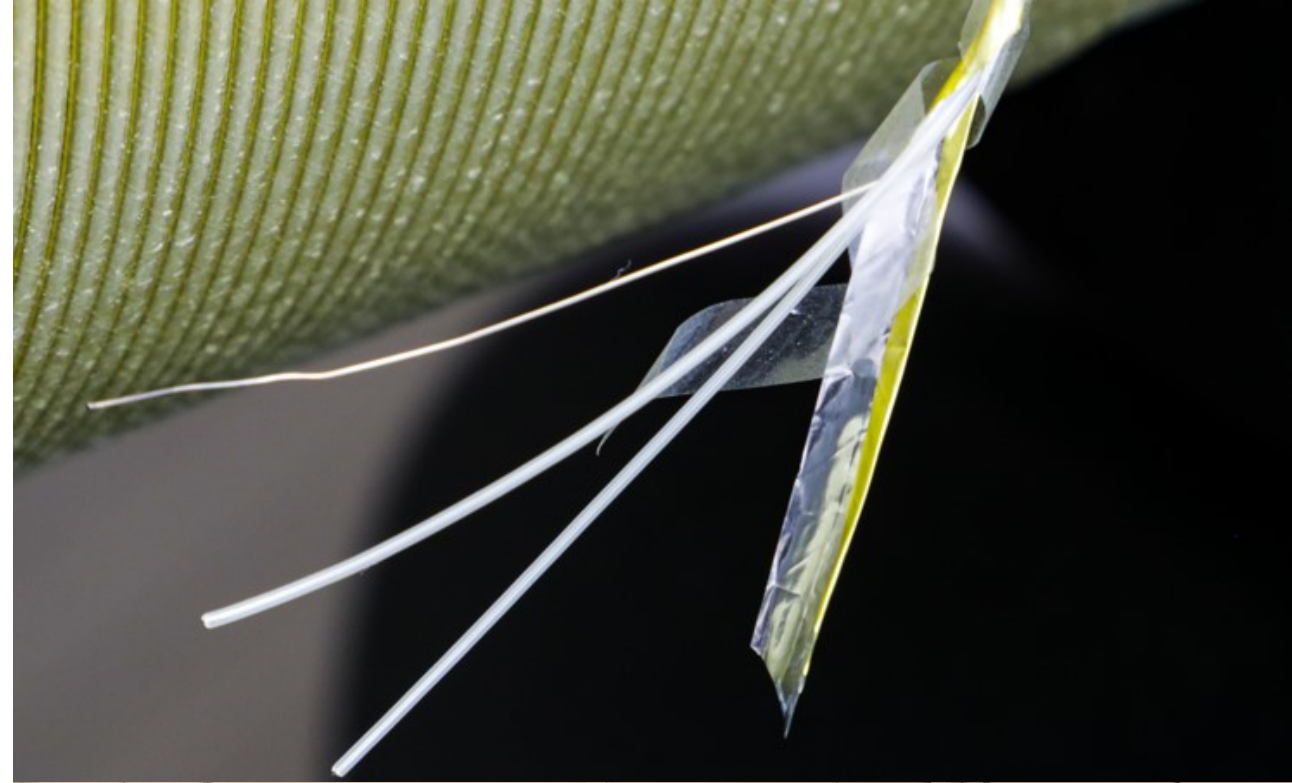
HF DATA CABLES

APPLICATIONS

- ✓ Cloud computing technology
- ✓ Server farms connections
- ✓ Wireless communications
- ✓ Enhanced data rate interconnection solutions

TAPING MATERIALS

- ✓ Alu-foil
- ✓ Cu-foil
- ✓ PE



HF DATA CABLES

STRENGTH POINTS

WTM has developed a specific cable taping machine to this kind of product that consider:

- ✓ Accurate cable tension control, by using pay-offs with dancer tension control controlled by load-cells;
- ✓ Two taping units, respectively for the screening and for the sealing tape application;
- ✓ Double wheel capstan as synchronized pulling unit;
- ✓ In-line infrared sintering sliding ovens
- ✓ Comprehensive quality control system, composed by laser gauges, load cells and WTM Visio System, in order to manage the final product certification;
- ✓ Take-up unit, torque controlled, provided with traversing system for accurate cable distribution.

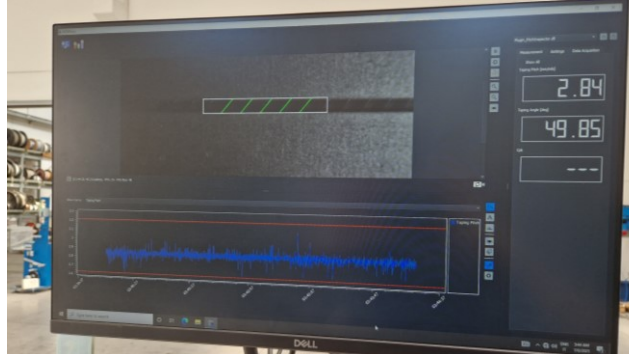


HF DATA CABLES

MAIN SPECS

		Min.	Max.
Cores dimension range	AWG	34	26
Cores diameter range	mm	0,3	1,5
Drain-wire dimension range	AWG	-	36
Wire tension range	N	2	20
Tape width range	mm	3	6
Tape tension range	N	2	15
Taping tension accuracy	%	-	±1
Taping head speed	rpm	-	2.500
Sintering temperature	°C	-	300
Taping line linear speed	m/min	-	10

Standard values, others on request.



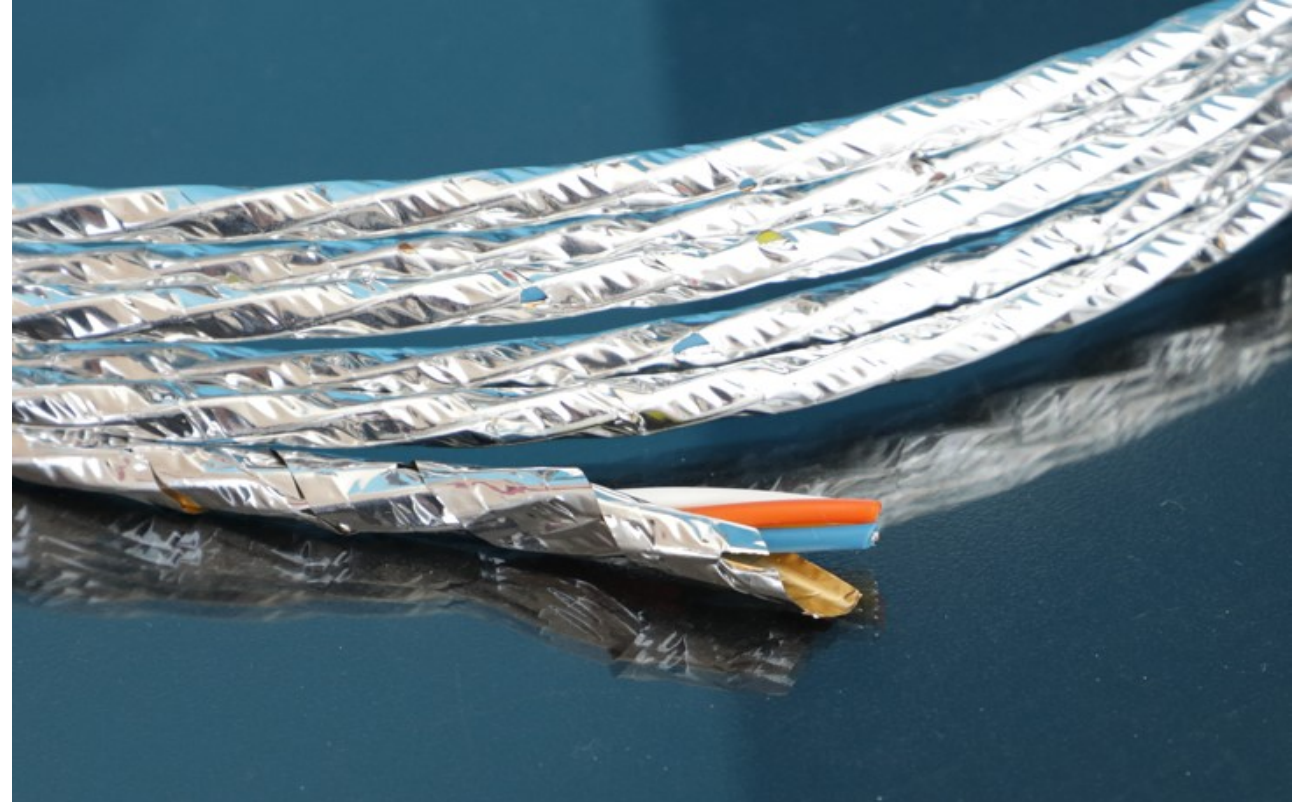
INDUSTRIAL & AUTOMOTIVE CABLES

APPLICATIONS

- ✓ Automotive cables (Vehicles sensors and power cables)
- ✓ Industrial field-bus applications
- ✓ Robotic constructions (Anthropomorphous robots)
- ✓ Cables for tooling machines (CNC cables)
- ✓ Control cables (sensors and safety cables)

TAPING MATERIALS

- ✓ Alu, Polyester, Alu/Polyester tape
- ✓ Polyethylene tapes
- ✓ TNT and FLEECE tapes

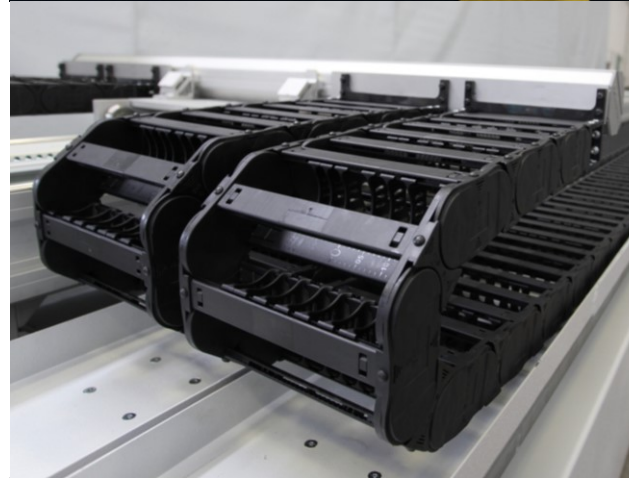


INDUSTRIAL & AUTOMOTIVE CABLES

STRENGTH POINTS

WTM has developed specific solutions for this kind of application, focused on:

- ✓ Possibility to work multiple highly-flexible stranded cables with accurate cable tension control, by using pay-off and take up with dancer tension control.
- ✓ Use of tape PADS, SPOOLS and JUMBO SPOOLS to improve the taping line efficiency.
- ✓ Accurate tape tension control, by using the dynamic dancer to reach low and constant tension values and grant them along the time.
- ✓ Accurate taping process with an in-line continuous control based on WTM VISIO quality control system and statistical analysis in-line and post process by SCOPE data analysis software.



INDUSTRIAL & AUTOMOTIVE CABLES

MAIN SPECS

		Min.	Max.
Wire dimension range	AWG	24	4
Wire diameter range	mm	0,5	5
Tape width range	mm	4	25
Tape tension range	N	3	30
Taping head speed	rpm	-	2500
Taping line linear speed	m/min	-	40

Standard values, others on request.





SOLUTIONS FOR SPECIAL CABLES

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