

INARCA TESTING PROCESSES

Control quality laboratory

System Management Certifications

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificato no./Certificate No.: 186183-2015-AQ-ITA-ACCREDIA Data prima emissione/Initial date: 09 settembre 2015 Validità/Valid: 09 settembre 2018 - 09 settembre 2021

Si certifica che il sistema di gestione di/This is to certify that the management system of

INARCA S.p.A.
Via Ca' Zusto, 35 - 35010 Vigodarzere (PD) - Italy

È conforme ai requisiti della norma per il Sistema di Gestione Qualità/
has been found to conform to the Quality Management System standard:
ISO 9001:2015

Questa certificazione è valida per il seguente campo applicativo:
Progettazione e produzione di terminali, connessioni elettriche e stampi progressivi per l'industria (EA 14, 17)

This certificate is valid for the following scope:
Design and production of electrical terminals, connections and progressive dies for industries (EA 14, 17)

Lungo e Data/Place and date:
Vimercate (MB), 14 settembre 2018

Per l'Organismo di Certificazione/
For the Certification Body
DNV GL - Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

Zeno Beltrami
Management Representative

La validità del presente Certificato è subordinata al rispetto delle condizioni contenute nel Contratto di Certificazione/
Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
DNV GL Business Assurance Italia S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy. TEL: 039 68 99 905. www.dnvgl.it

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificato no./Certificate No.: 115883-2012-AE-ITA-ACCREDIA Data prima emissione/Initial date: 19 giugno 2012 Validità/Valid: 30 giugno 2018 - 30 giugno 2021

Si certifica che il sistema di gestione di/This is to certify that the management system of

INARCA S.p.A.
Via Ca' Zusto, 35 - 35010 Vigodarzere (PD) - Italy

È conforme ai requisiti della norma per il Sistema di Gestione Ambientale/
Has been found to conform to the Environmental Management System standard:
ISO 14001:2015

Valutato secondo le prescrizioni del Regolamento Tecnico RT-09/
Evaluated according to the requirements of Technical Regulations RT-09

Questa certificazione è valida per il seguente campo applicativo:
Progettazione e produzione di terminali, connessioni elettriche attraverso i processi di stampaggio materie plastiche e metalliche, lavorazioni superficiali attraverso trattamenti galvanici (stagnatura, nichelatura e ramatura) e lavorazioni meccaniche (fresatura, rettifiche ed elettroerosione). Progettazione di macchine automatiche e stampi per l'industria (EA: 19)

This certificate is valid for the following scope:
Design and production of terminals, electrical connections through the processes of plastic and metal stamping, surface treatment through galvanic treatment (tinning, nickelling and coppering) and machining (milling, grinding and spark erosions). Design of automatic machines and dies for industry (EA: 19)

Lungo e Data/Place and date:
Vimercate (MB), 11 giugno 2018

Per l'Organismo di Certificazione/
For the Certification Body
DNV GL - Business Assurance
Via Energy Park, 14 - 20871 Vimercate (MB) - Italy

Zeno Beltrami
Management Representative

La validità del presente Certificato è subordinata al rispetto delle condizioni contenute nel Contratto di Certificazione/
Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
DNV GL Business Assurance Italia S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy. TEL: 039 68 99 905. www.dnvgl.it

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificato No.: 186434-2015-AQ-ITA-IATF Valid until: 16 September, 2018 - 15 September, 2021
IATF Certificate No.: 0333723

This is to certify that the management system of

INARCA S.p.A.
Via Ca' Zusto, 35 - 35010 Vigodarzere (PD) Italy
and, if applicable, the remote support locations as mentioned in the Appendix accompanying this Certificate

has been found to conform to quality management system standard:
IATF 16949:2016

This certificate is valid for the following Scope:
DESIGN AND PRODUCTION OF ELECTRICAL TERMINALS AND CONNECTIONS

Place and date:
Katy, TX, 17 September 2018

For the issuing office:
DNV GL - Business Assurance
Milan, Italy

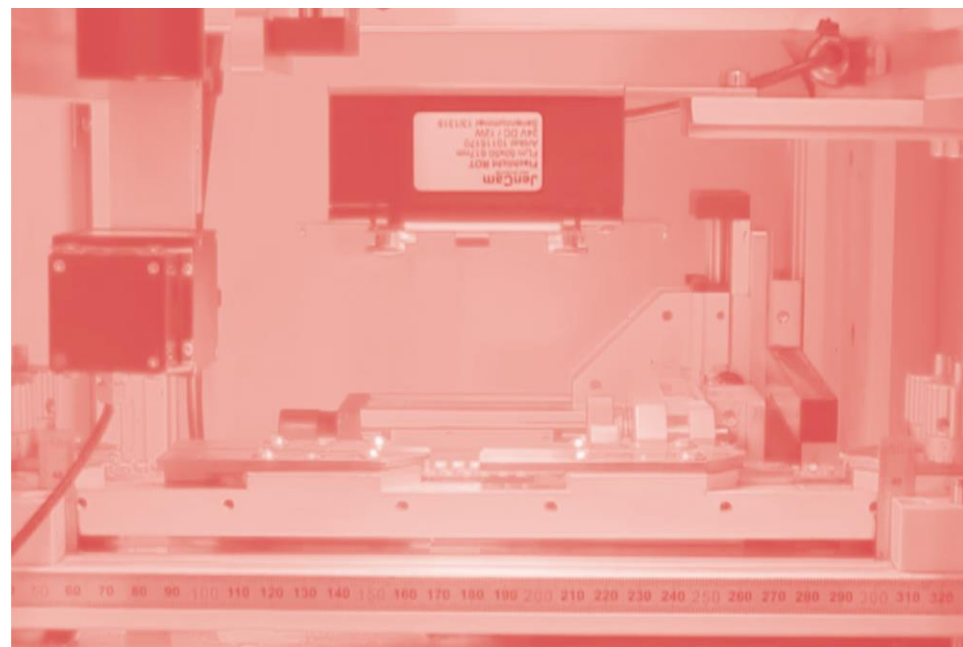
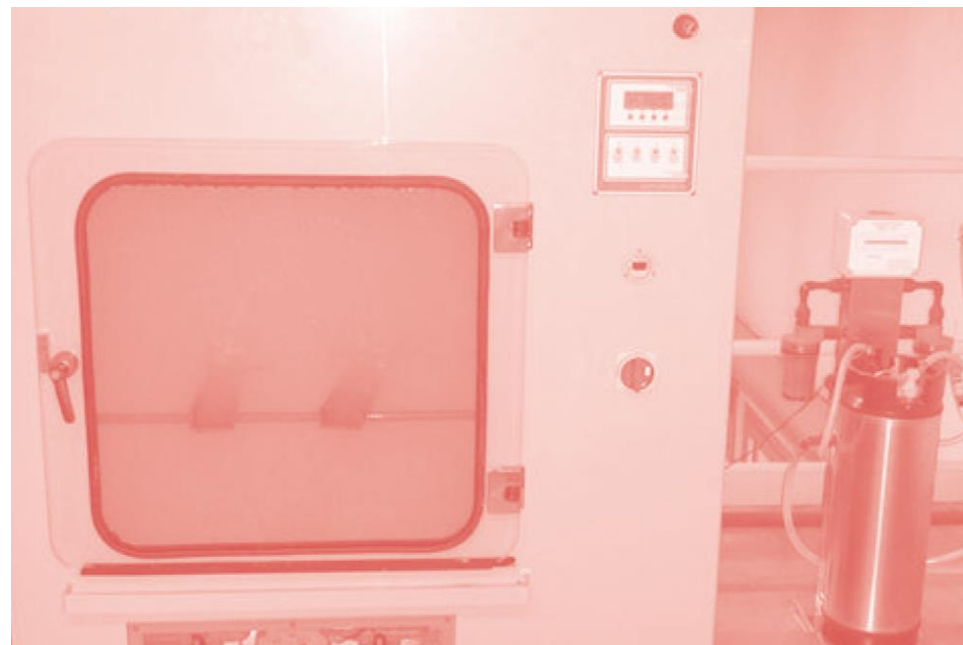
Robert Kozak
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL - Business Assurance, 1400 Navajo Drive, Katy, TX 77459. Tel.: 281-396-1000. www.dnvglcert.com

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Laboratory machine/equipment

TYPE OF TEST	MACHINE/EQUIPMENT
Dimensional	ALTIMETER TYPE LINEAR HEIGHT SERIE 518-32
Dimensional	MICROMETER 0-25mm MITUTOYO
Dimensional	OPTICAL MEASURE EQUIPMENT CNCFLASH200
Dimensional	OPTICAL MEASURE EQUIPMENT EOS 6.5.4
Dimensional	OPTICAL MEASURE EQUIPMENT SMARTSCOPE FLASH 200
Dimensional	STEREOMICROSCOPE STEMI 2000C
Mechanical	DIGITAL INSERTION TEST EQUIPMENT
Mechanical	DYNAMOMETER MFG 500 CAP MAX 50 KG + STAT
Mechanical	HARDNESS MEASURER "SHORE D"
Mechanical	MICRODUROMETER LEITZ + ACCESSORI
Mechanical	MICROSCOPE MM 11B + NIKON ACCESSORIES
Mechanical	TRACTION EQUIPMENT TYPE MICRO
Mechanical	VIBRATION SYSTEM LDS V650/PA1000L +
Flammability	GLOW WIRE TEST EQUIPMENT
Electrical	DIELECTRIC STRENGTH EQUIPMENT UH 28 M/1COM
Electrical	MULTIMETRO FLUKE-189 FGID
Electrical	STEADY FEEDER 50A 220V +
Electrical	STEADY FEEDER No.4001
Electrical	STEADY FEEDER No.4002
Electrical	TESTER FOR DIELECTRIC STRENGTH GLP1-Ehv
Electrical	TRACKING RESISTANCE EQUIPMENT
Climatic	CLIMATIC CHAMBER HYGROS 15 C MATR.5990
Climatic	THERMAL SHOCK CHAMBER 2TEMP CST 84/2T
Climatic	THERMOMETER DIGITALE FLUKE MOD. 51K/J
Corrosion	SALT SPRAY EQUIPMENT TYPE 610E400 LT.



Tests on plastic connectors

Dimensional test

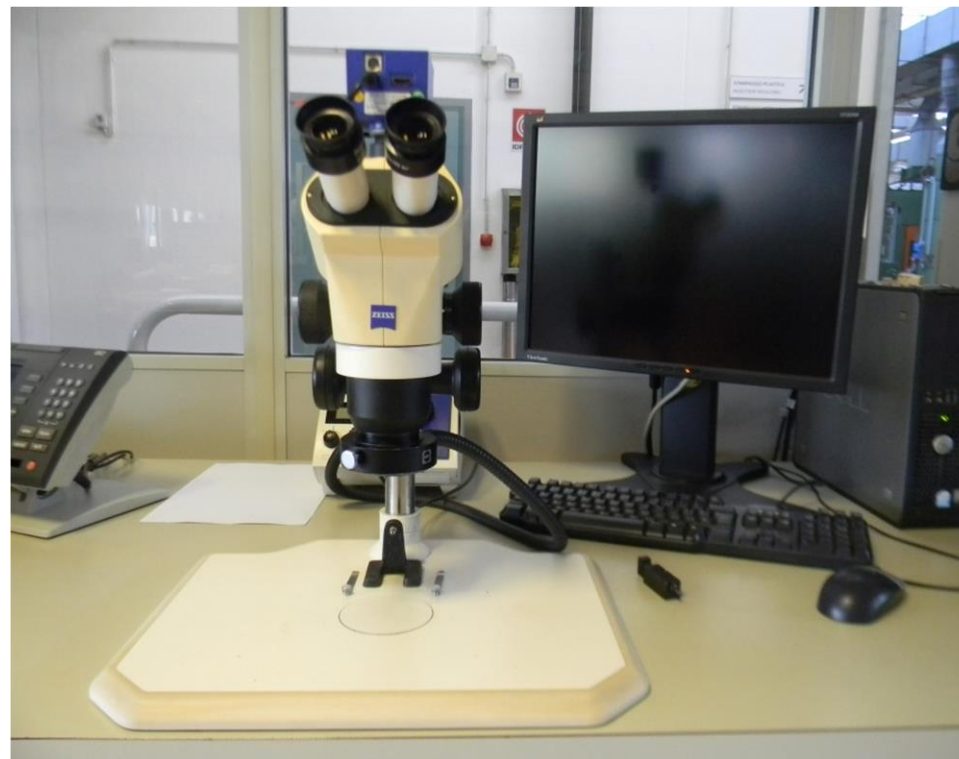
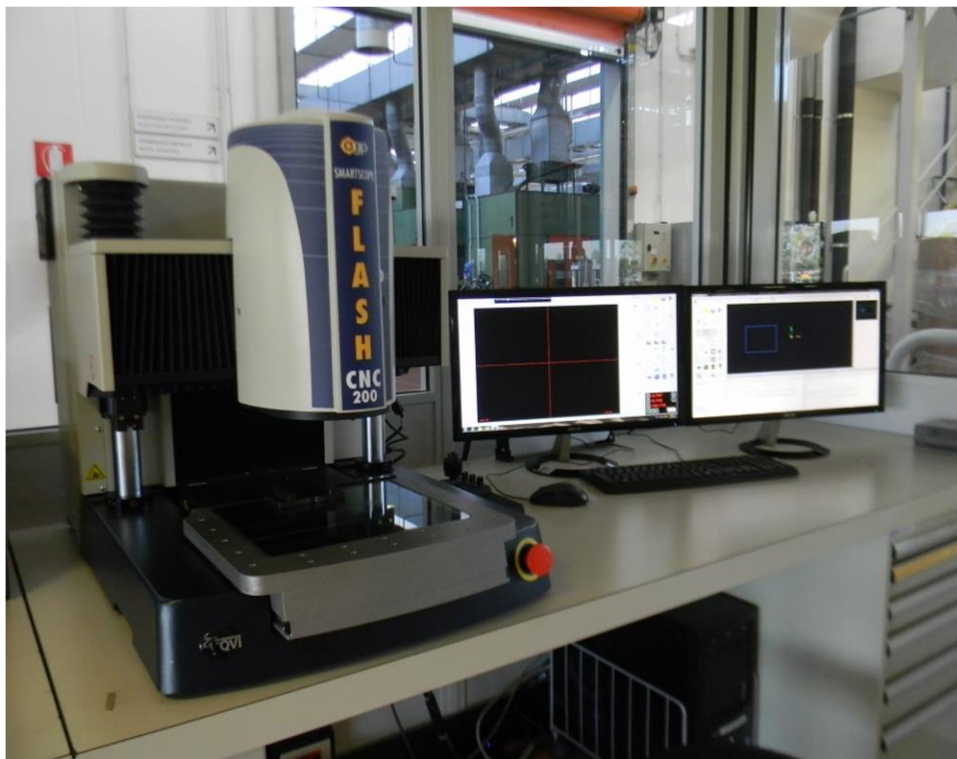
MEASURE EQUIPMENT



Tests on metal terminals

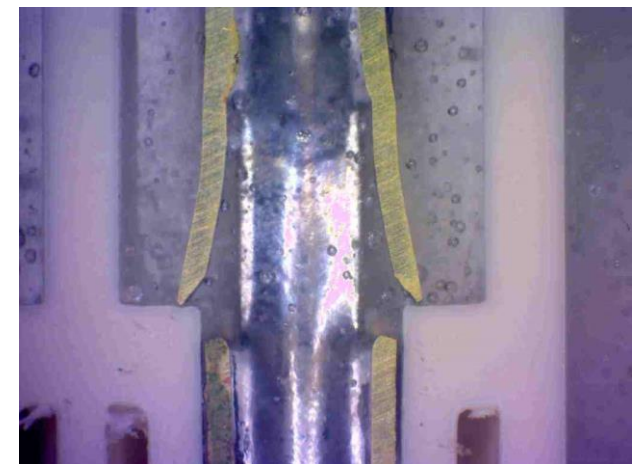
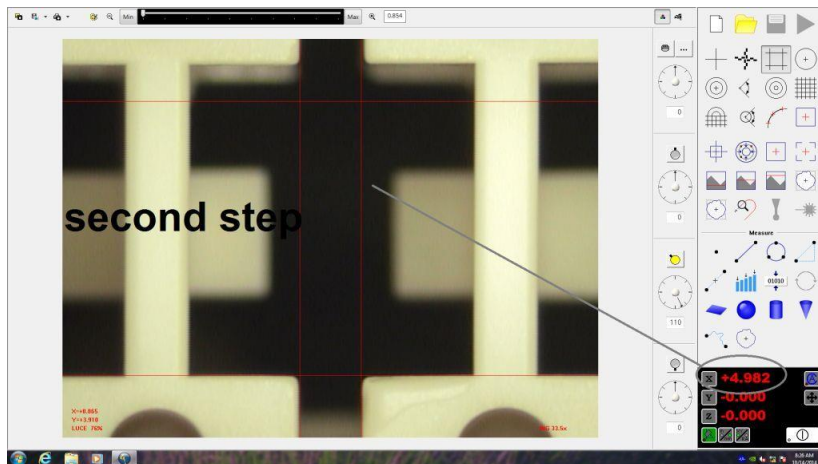
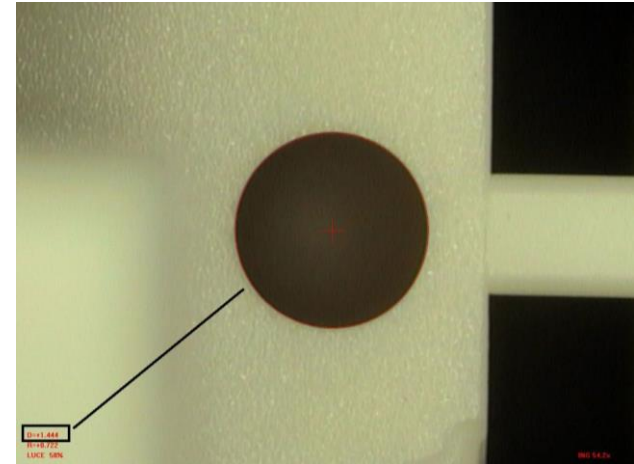
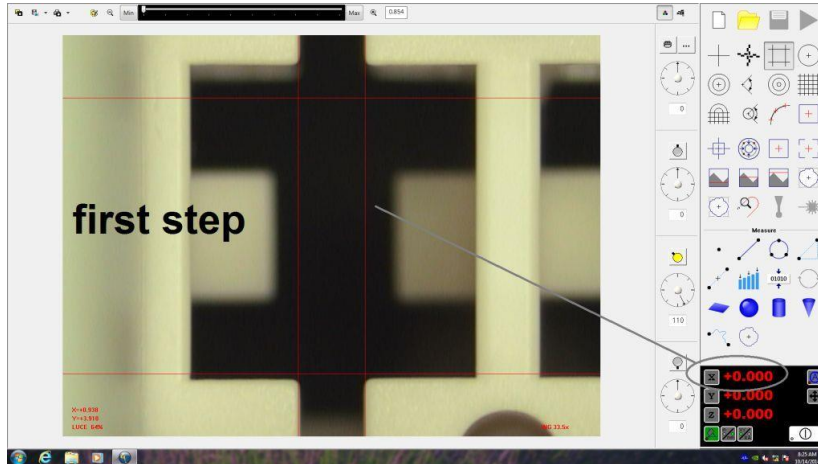
Mechanical test

OPTICAL MEASURE EQUIPMENT



Generic tests

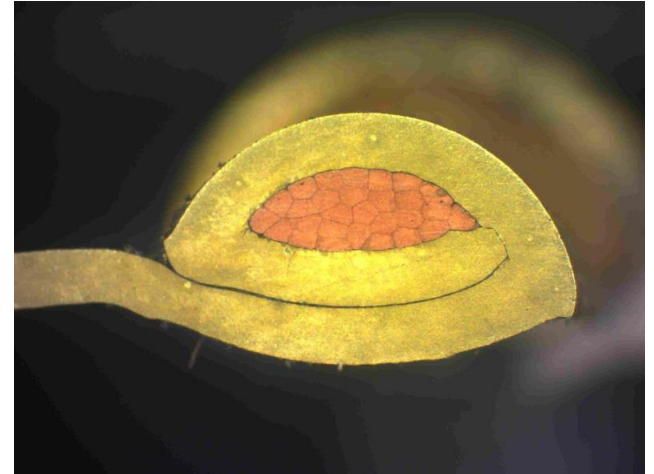
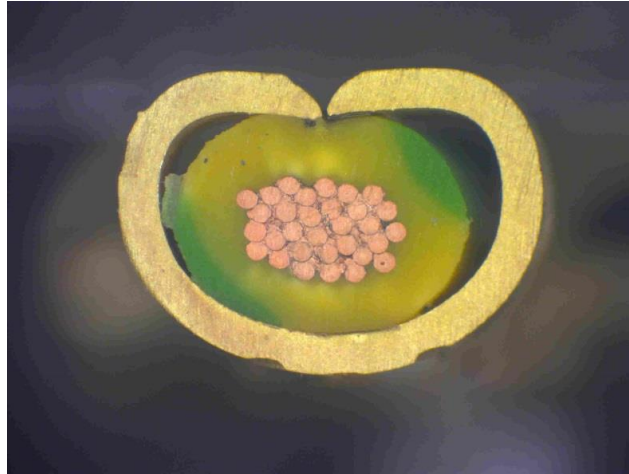
Dimensional test



Generic tests

Visual test

MICROSECTIONS



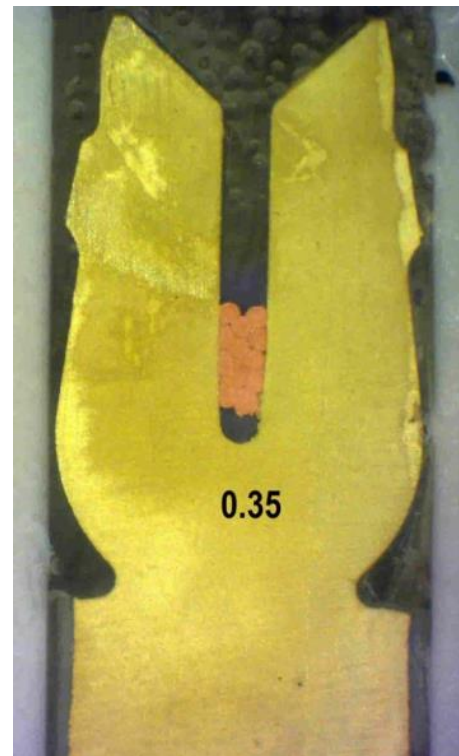
Generic tests

Visual test



Generic tests

Visual test



Generic tests

Visual test

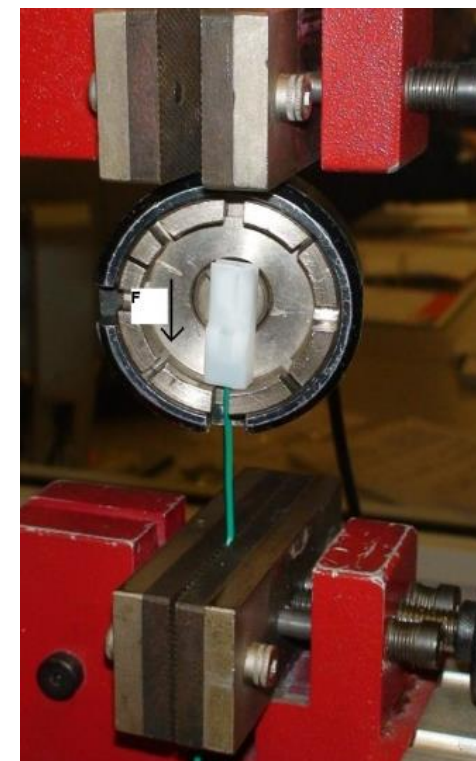
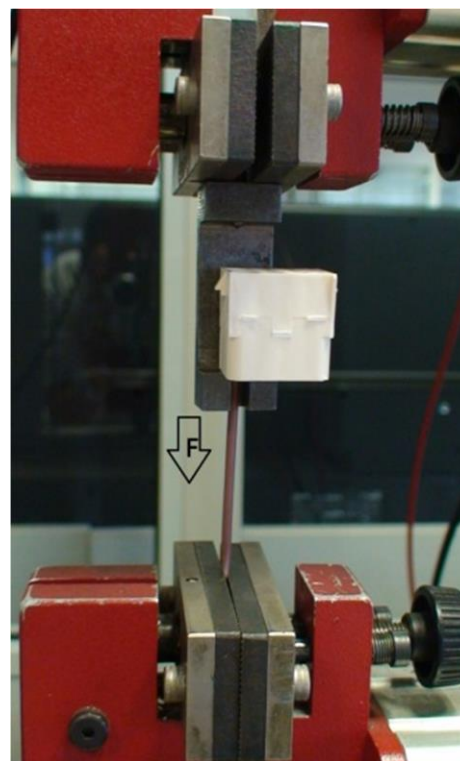
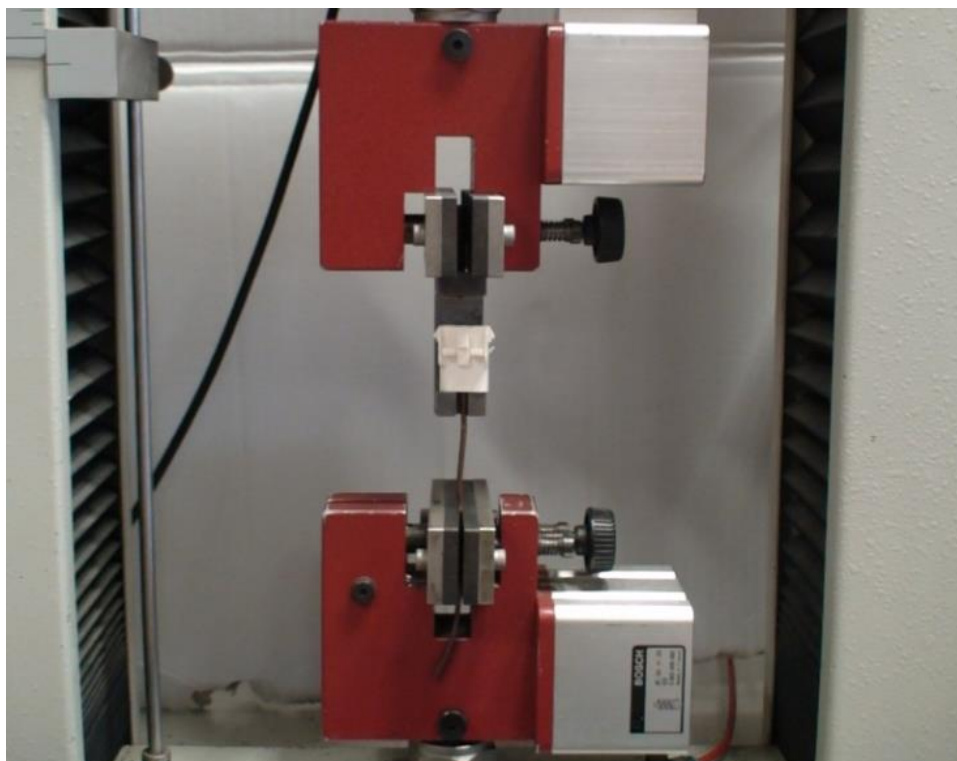


Tests on plastic connectors

Mechanical test

TERMINAL INSERTION AND EXTRACTION FORCE

(into/from connectors) According to Inarca Technical Specification.

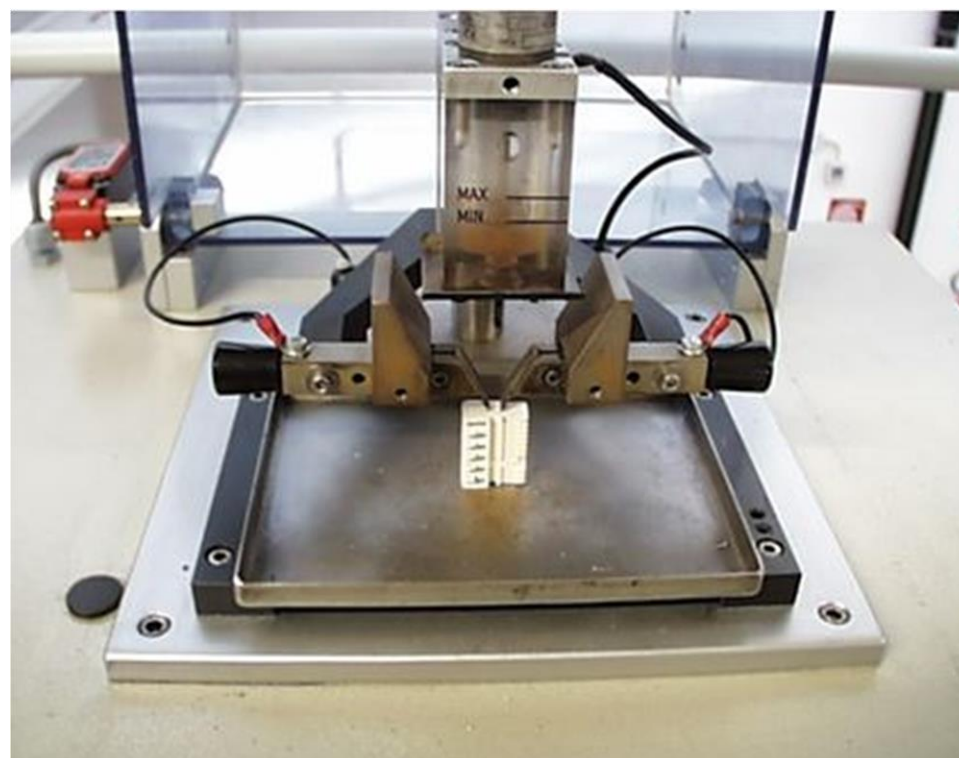


Tests on plastic connectors

Electrical test

TRACKING RESISTANCE

According to CEI En 60112 and CEI EN 60335-1.

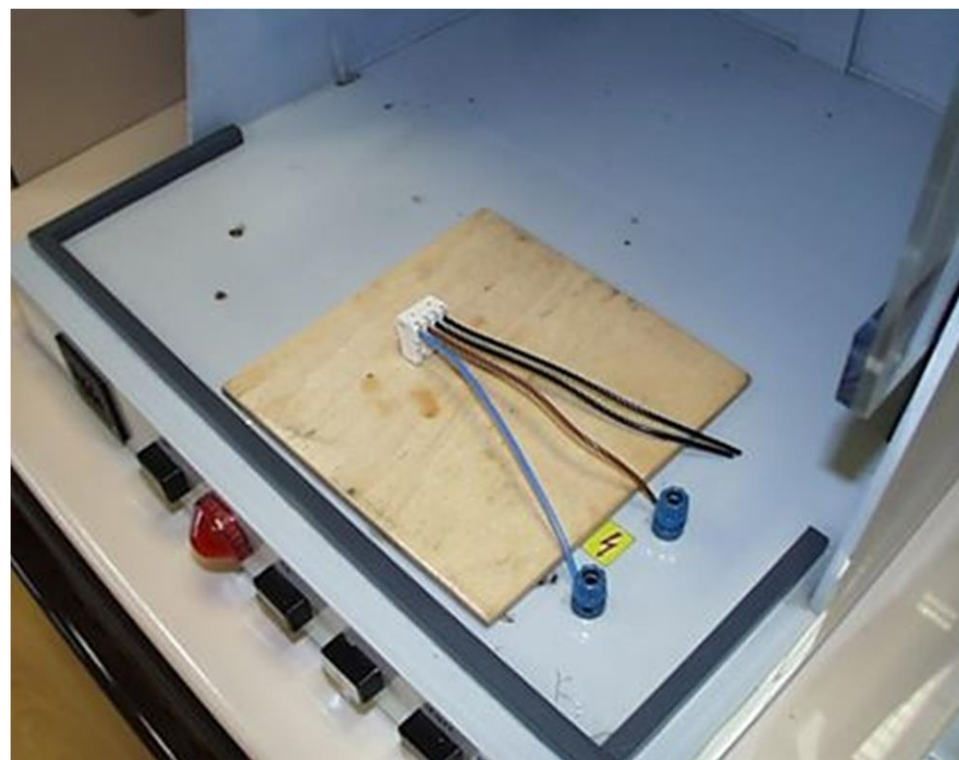
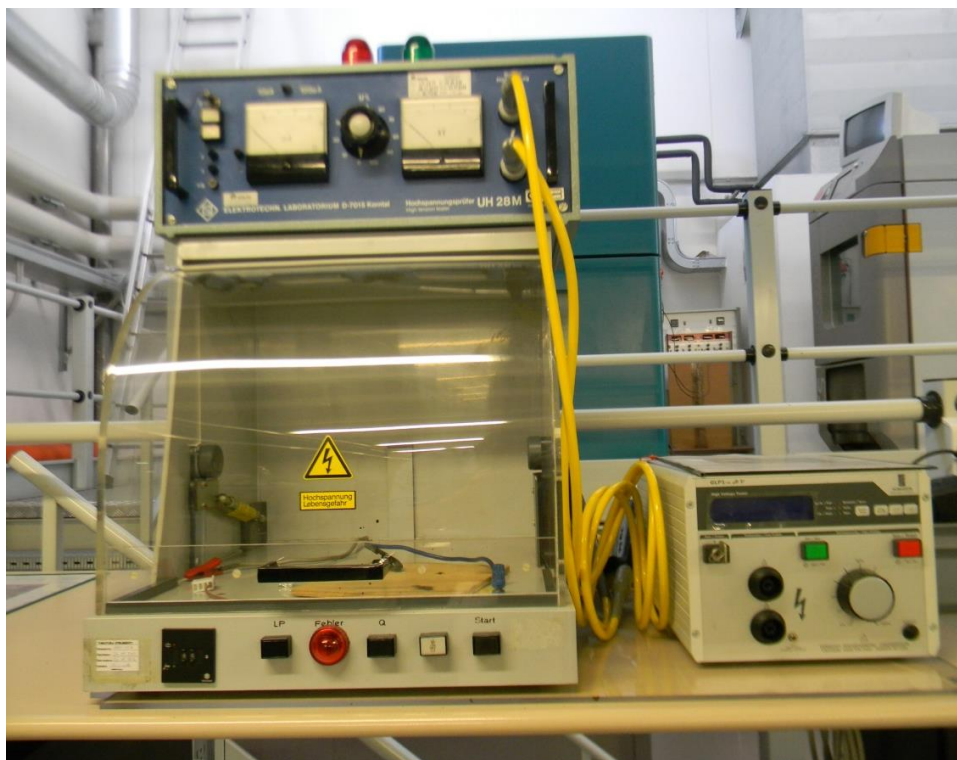


Tests on plastic connectors

Electrical test

DIELECTRIC STENGHT

According to EN 60335-1.



Tests on plastic connectors

Flammability test

GLOW WIRE TEST

According to CEI EN 60695-2, CEI EN 60335-1.

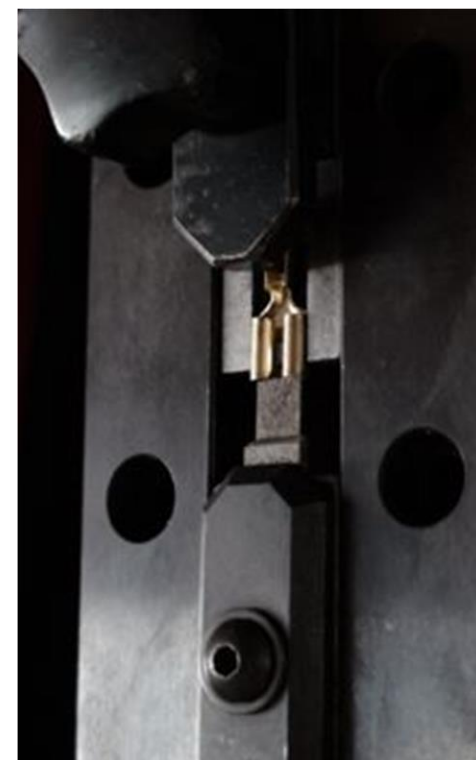


Tests on metal terminals

Mechanical test

INSERTION AND WITHDRAWAL

According to CEI EN 61210, CEI 48-15/IEC 760, UL 310 or Inarca Specification.

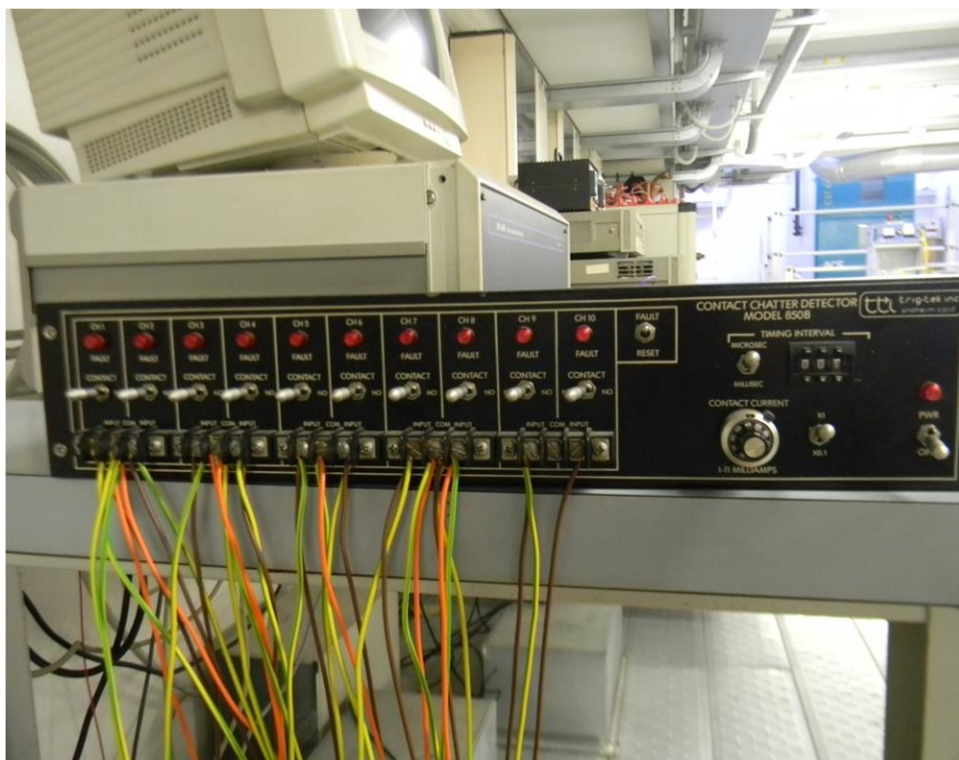


Tests on metal terminals

Mechanical test

VIBRATION (AND CONTACT DISTURBANCE)

According to IEC 512.

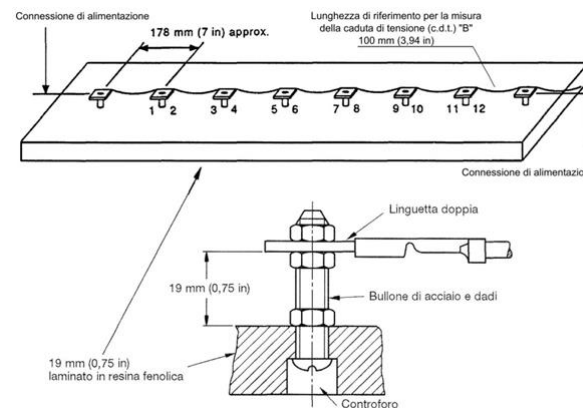
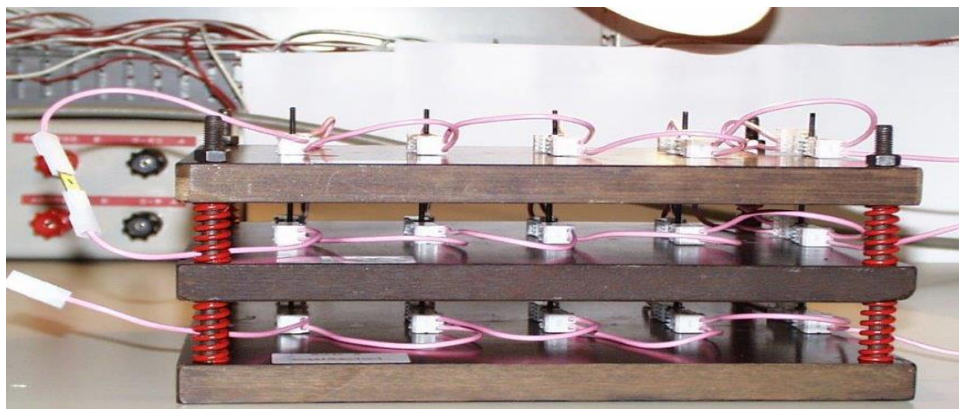
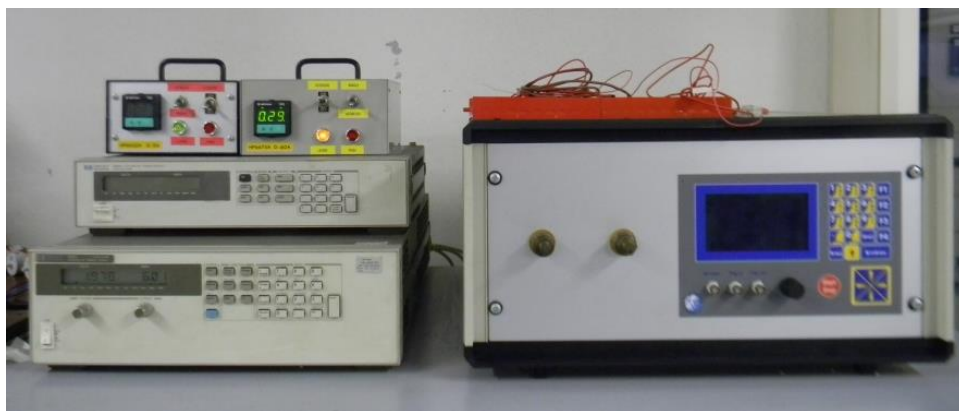


Tests on metal terminals

Electrical test

TEMPERATURE RISE CURRENT LOAD, CYCLIC

According to IEC 760; CEI EN 61210; UL310.

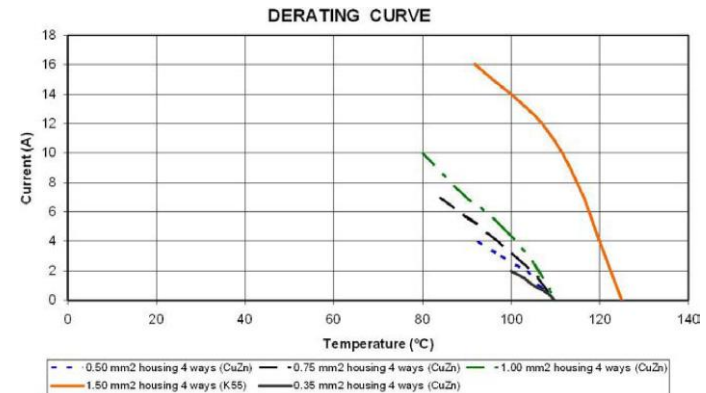
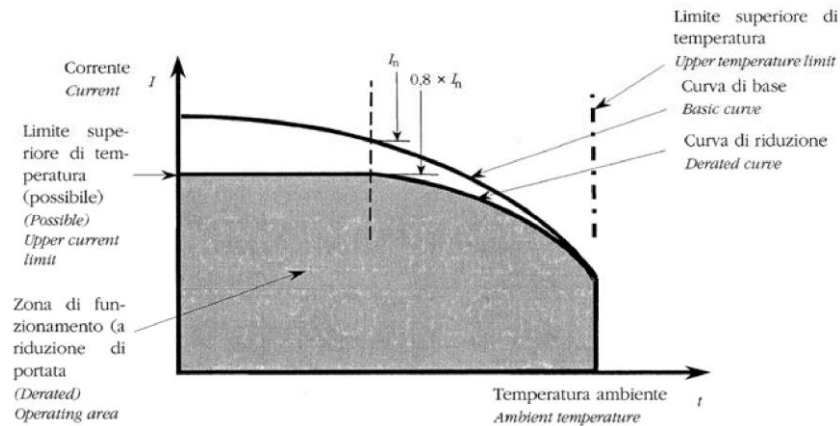
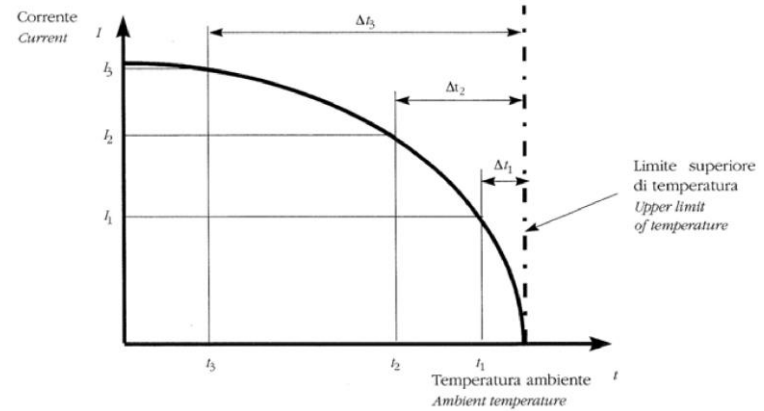
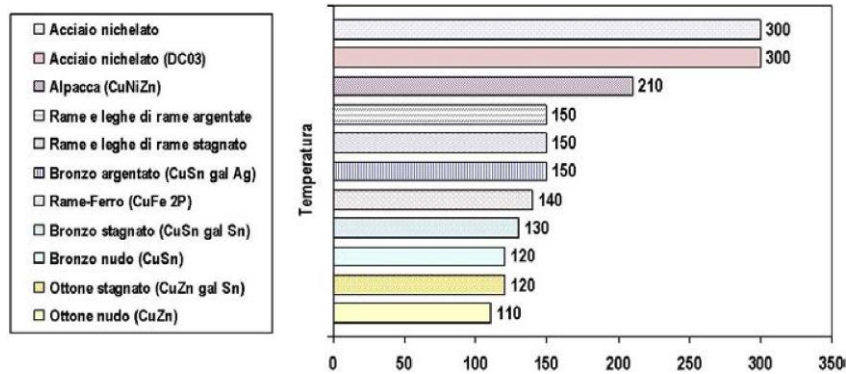


Tests on metal terminals

Electrical test

CURRENT-CARRYING CAPACITY TEST/DERATING CURVE

According to CEI EN 60512.



Tests on metal terminals

Climatic test

RESISTANCE TO HUMIDITY – TEMPERATURE LIFE

RAPID CHANGE OF TEMPERATURE – CLIMATIC SEQUENCE (DRY HEAT, DAMP HEAT, COLD)

According to EN 60335-1, CEI EN 61210; CEI EN 60352; CEI EN 60068.



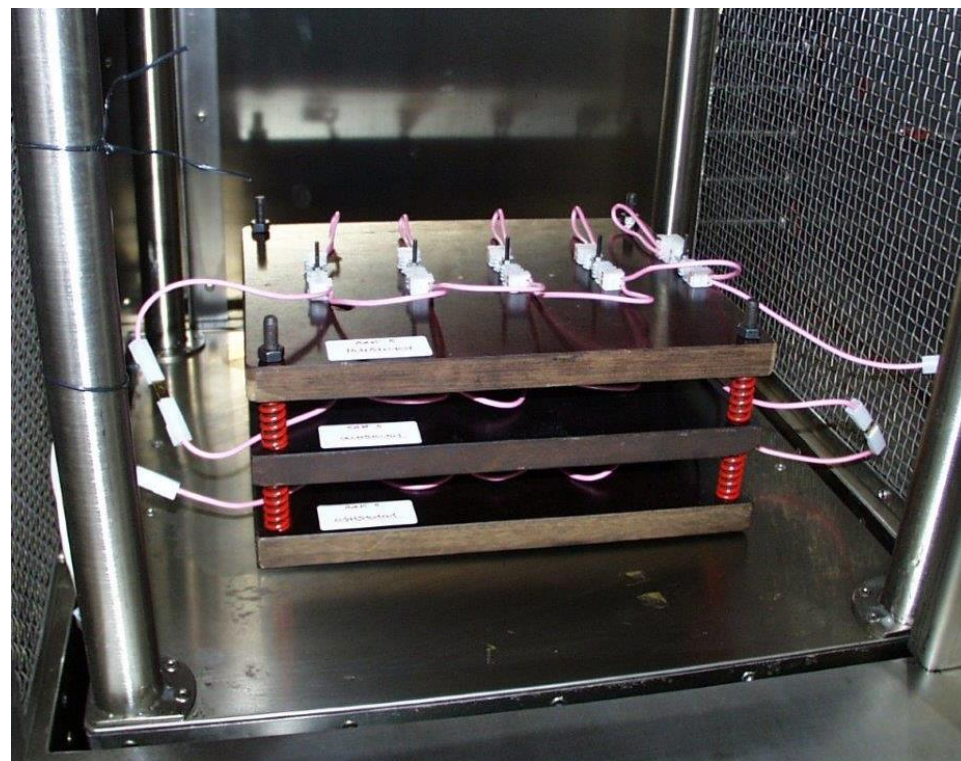
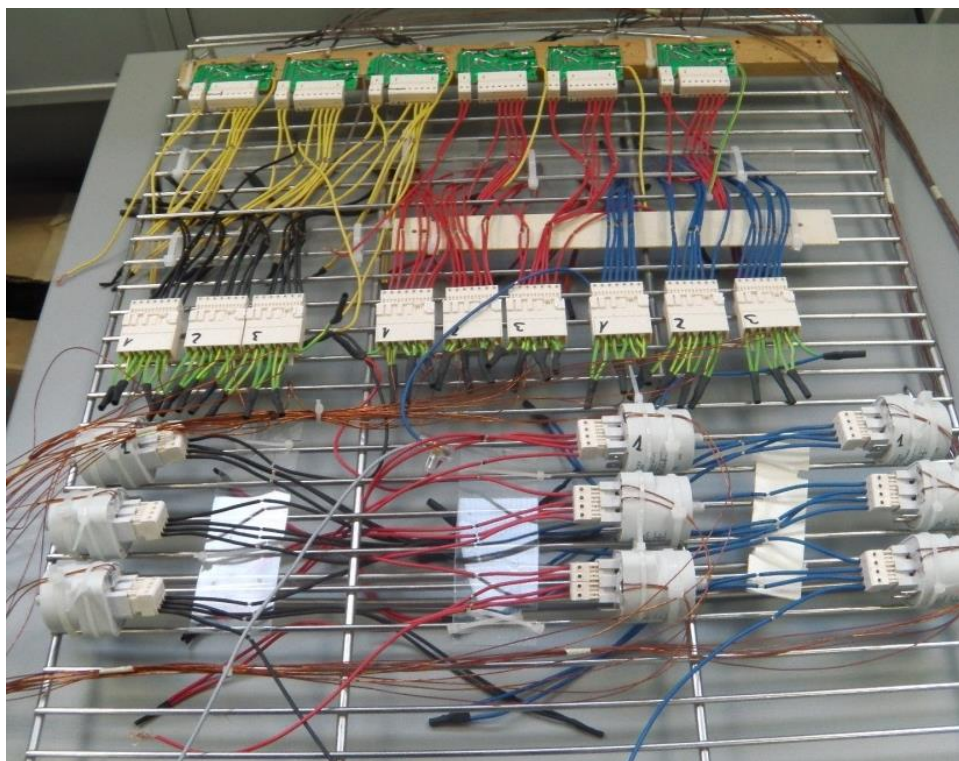
Tests on metal terminals

Climatic test

RESISTANCE TO HUMIDITY – TEMPERATURE LIFE

RAPID CHANGE OF TEMPERATURE – CLIMATIC SEQUENCE (DRY HEAT, DAMP HEAT, COLD)

According to EN 60335-1, CEI EN 61210; CEI EN 60352; CEI EN 60068.

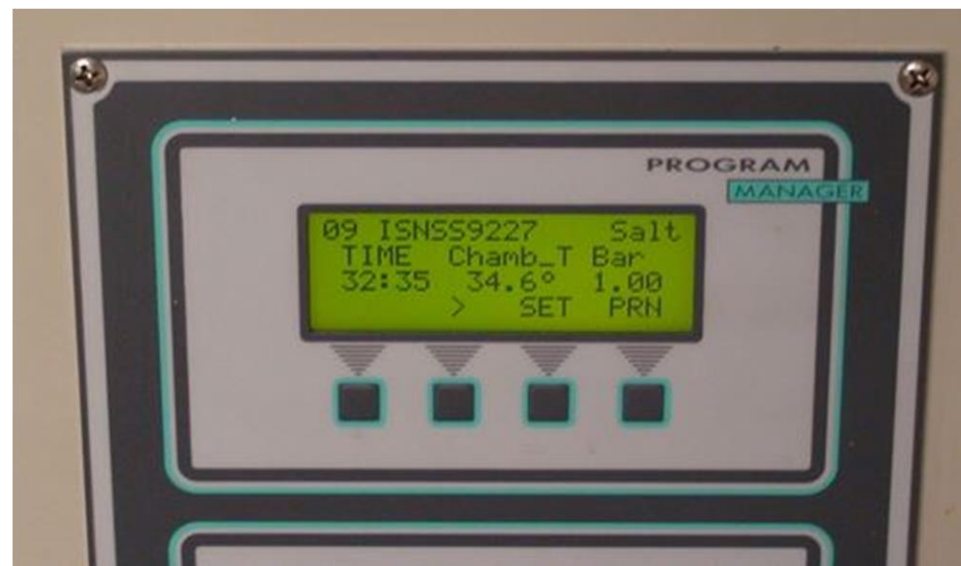


Tests on metal terminals

Corrosion test

SALT SPRAY TEST

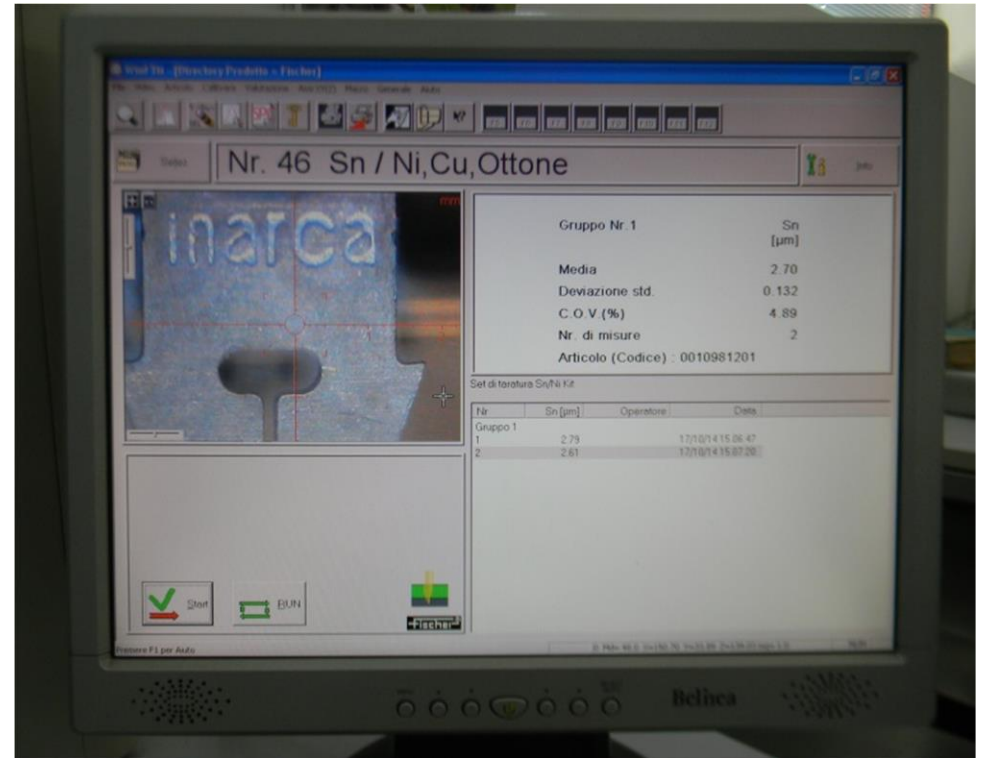
According to UNI EN ISO 9227.



Tests on metal terminals

Surface Treatment Thickness

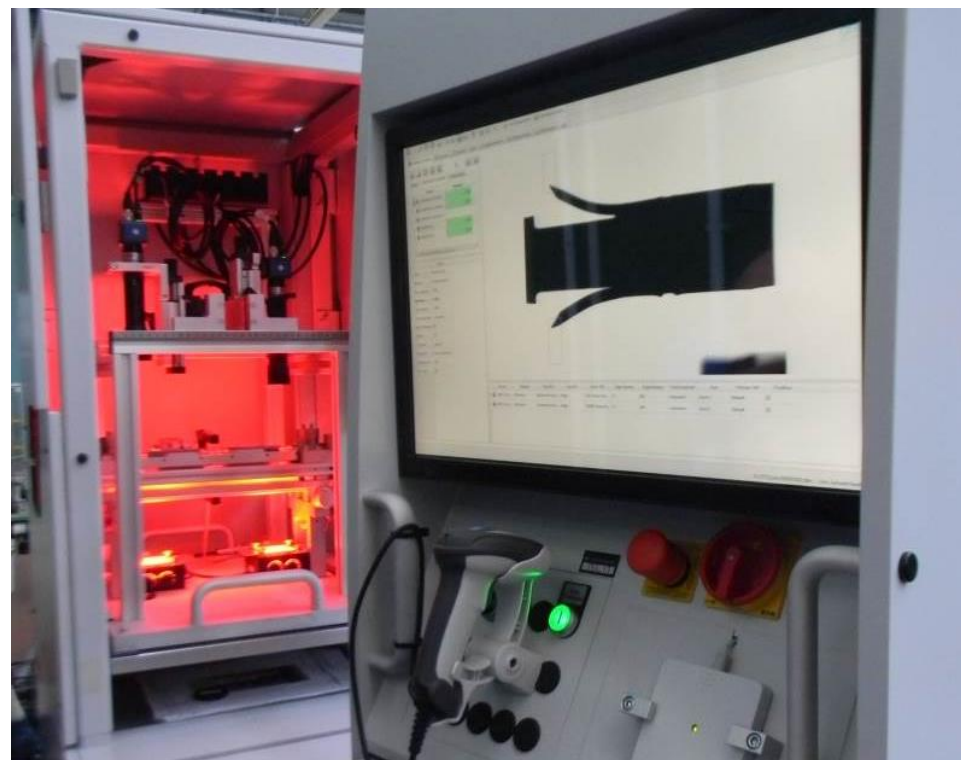
X-RAY ANALISYS



Tests on metal terminals

Dimensional Test

OPTICAL PRODUCTION 100% CONTROL



Thank you.