

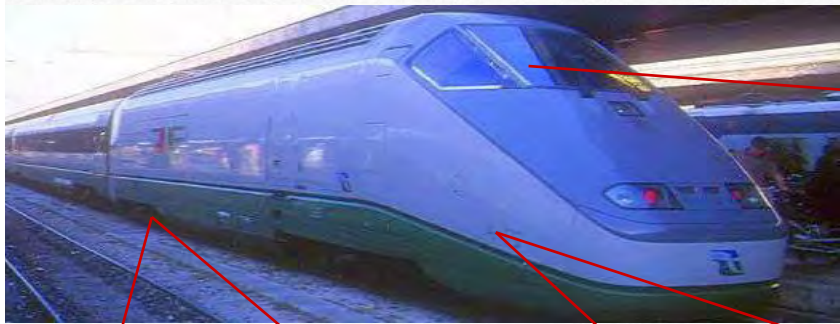
RAILWAYS DIVISION



RAILWAYS CONNECTIONS

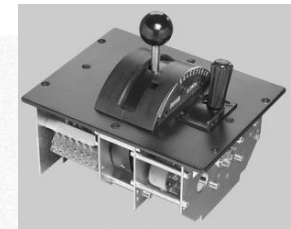
- High-speed vehicles: urban and suburban railways transport
- Security equipment on board
- Signal devices
- Command and control of traction/brake
- Communication equipment for land train
- PA system UIC568 /Brake UIC541/ Heating UIC552
- Earth systems
- System dead man

RAILWAYS CONNECTIONS



COMMAND DESK

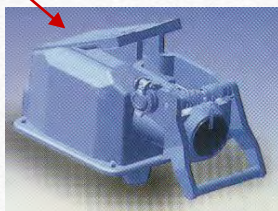
- Command & Control
- Racks Indicators
- Land-train Connection



MASTER CONTROLLER



DATA & SOUND
UIC 568 Connector



HEATING SYSTEM
UIC 552 Connector



BOGIES Connectors +
Harness CESIS System



ELECTROPNEUMATIC
BRAKE UIC 541-5 Connector



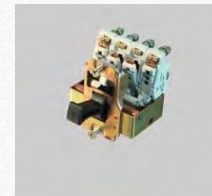
POWER LINES



PRODUCTS

- Electric, power control cables
- Customised Master controllers
- Professional connectors supply, tools and accessories
- Labels and identification systems
- Capabilities to produce customised multicore cables
- R&D engineering
- Microswitch and snap action switch

EXAMPLE OF PRODUCTS



DESK INTERRUPTORS



H.M. BUZZER



EMERGENCE PEDALS

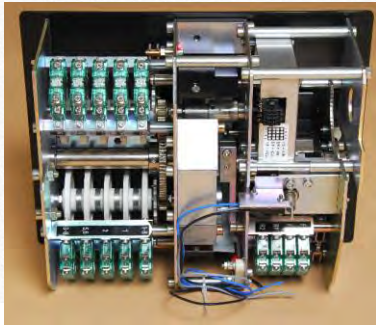
EXAMPLE OF PRODUCTS



SIGNAL CIRCULAR CONNECTOR



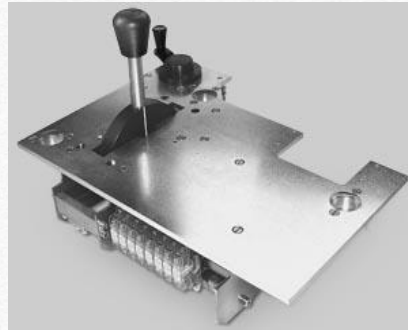
POWER CIRCULAR CONNECTOR



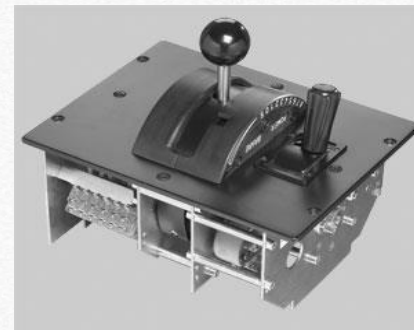
EXAMPLE OF MASTER CONTROLLER



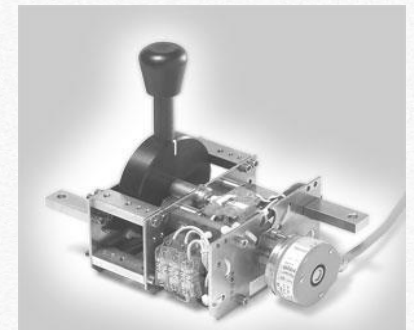
Serie 334 H



Serie 334 M10



Serie 333D



Serie 334 C

ALSTOM

CAF

CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A.

invensys
DIMETRONIC
signals

Alte

Faiveley
TRANSPORT

SIEMENS

BOMBARDIER

Talgo

feve

renfe

vossloh

AnsaldoBreda

Metro
Metro de Madrid, S.A.

RAILWAYS PROJECTS

Our railway division has participated in leading national and international projects of technological innovation such as:

- Communication ERTMS y ASFA Digital
- AVE 350 series I y II
- AVE Madrid - Seville
- Tren Hotel
- Intercity
- Locomotoras 4000
- Maniobras SNCF
- Tren Tran
- Multiple command locomotive s/319
- Metro de Madrid
- Tranvía Citadis

Locomotoras **BOMBARDIER**



Locomotoras
DB



Locomotoras
S/3000



Locomotoras
S/4000



Locomotora
SIEMENS

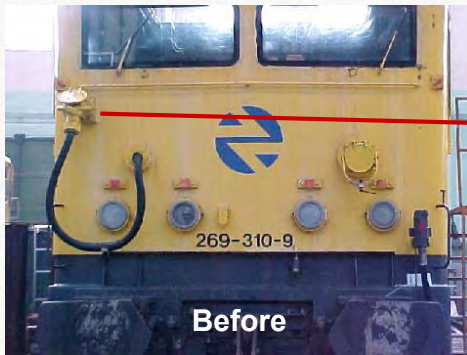


Locomotora
SIEMENS



Locomotora
VOITH



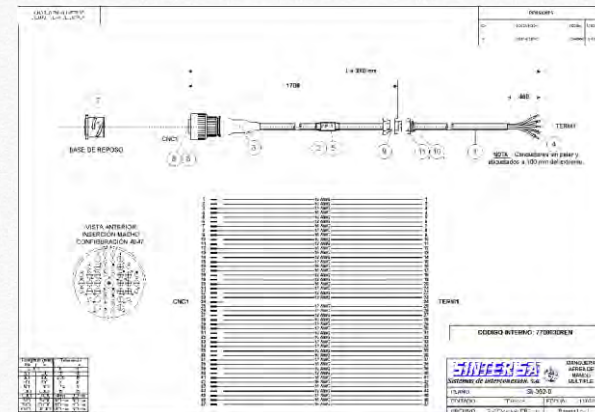


ADDED VALUE EXAMPLE

Modernization of electrical installation of multiple command in LOC.S/319

Features:

- Less weight
- Reduced cable diameter
- More functions





POWER LINE



POWER LINE



SOUND AND DATA CONNECTIONS



ELECTROPNEUMATIC BRAKE

ADDED VALUE EXAMPLE

XXI CENTURY TALGO



ADDED VALUE EXAMPLE



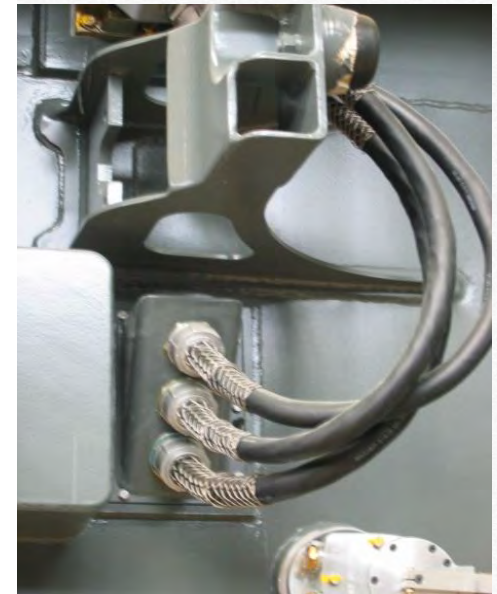
ADDED VALUE EXAMPLE



ADDED VALUE EXAMPLE



VIBRATIONS & MOVEMENTS
SOLUTIONS



ADDED VALUE EXAMPLE



ADDED VALUE EXAMPLE



MANUFACTURING EXAMPLES



540 VCC LINE



320 VAC LINE

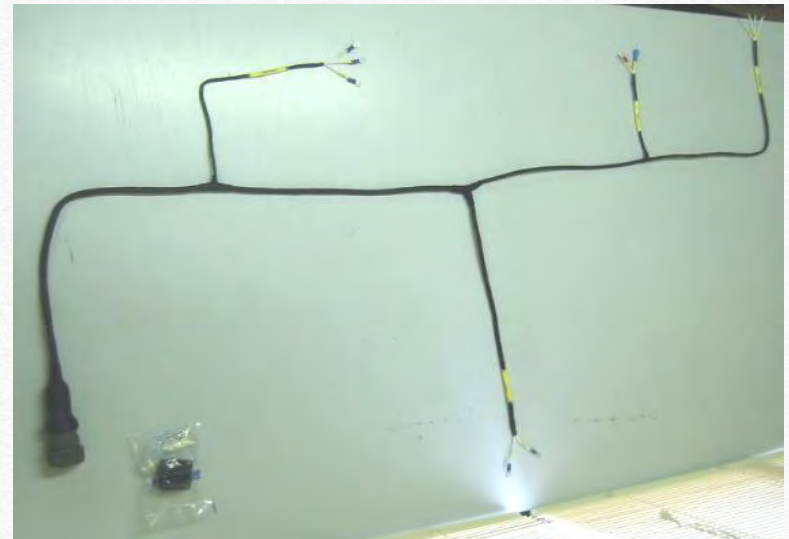


CONTROL LINES



CONTROL HARNESS FOR MULTIPLE COMMAND

MANUFACTURING EXAMPLES



ELECTRICAL INSTALLATION DIESEL ENGINE S/592

MANUFACTURING EXAMPLES



POWER LINES
AVE ALSTOM MADRID-SEVILLA



CONEXIÓN BOGIE - BASCULACIÓN

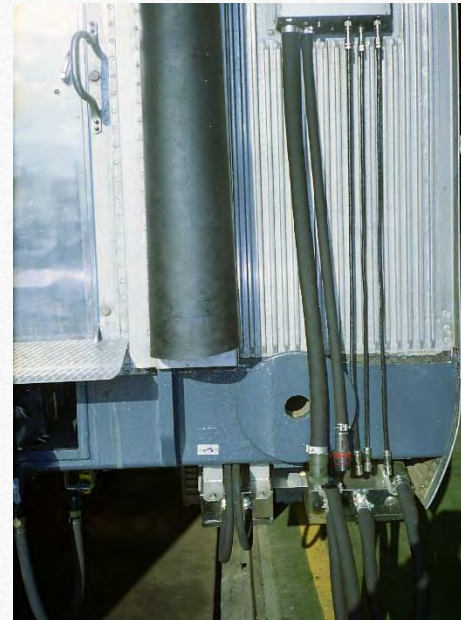
MANUFACTURING EXAMPLES



MULTIPLE COMMAND LOCO4000
VOSSLOH

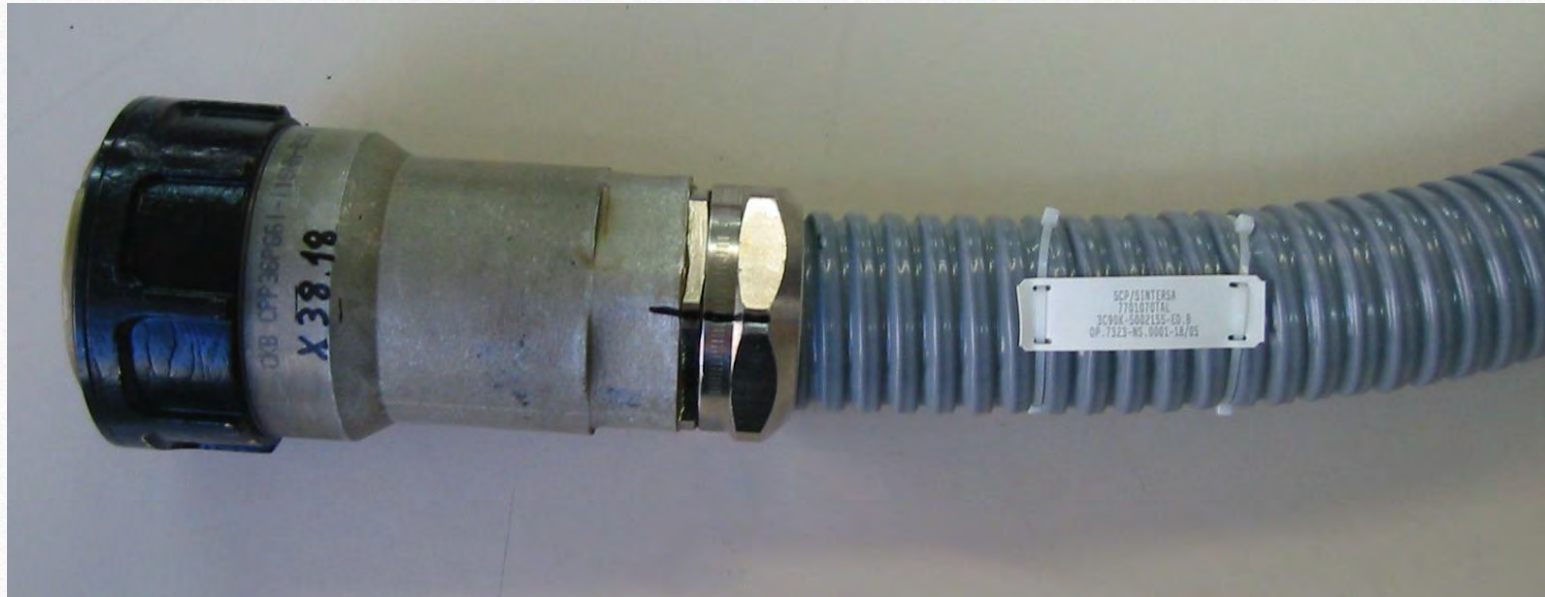


MANUFACTURING EXAMPLES

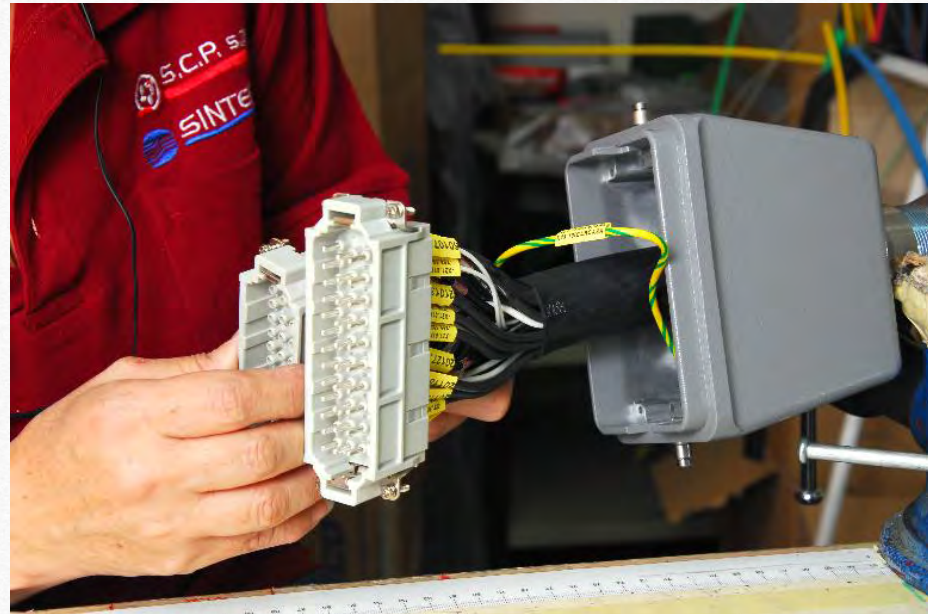


SILICIO PROJECT
PORTUGAL
ALSTOM

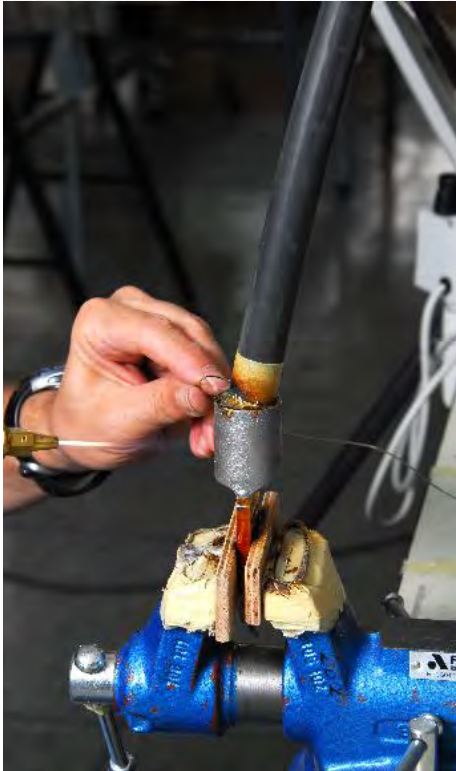
MANUFACTURING EXAMPLES



MANUFACTURING EXAMPLES



MANUFACTURING EXAMPLES



MANUFACTURING EXAMPLES



PROJECTS EXAMPLES



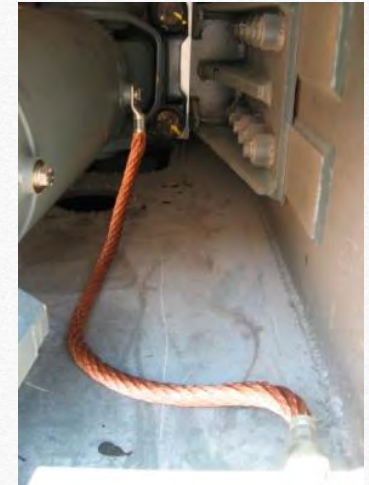
FIBRE OPTICS / SIGNAL / POWER

AVE TALGO

Design and manufacturing of boxes and Harness



PROJECTS EXAMPLES



AVE TALGO

Design and manufacturing of boxes and Harness