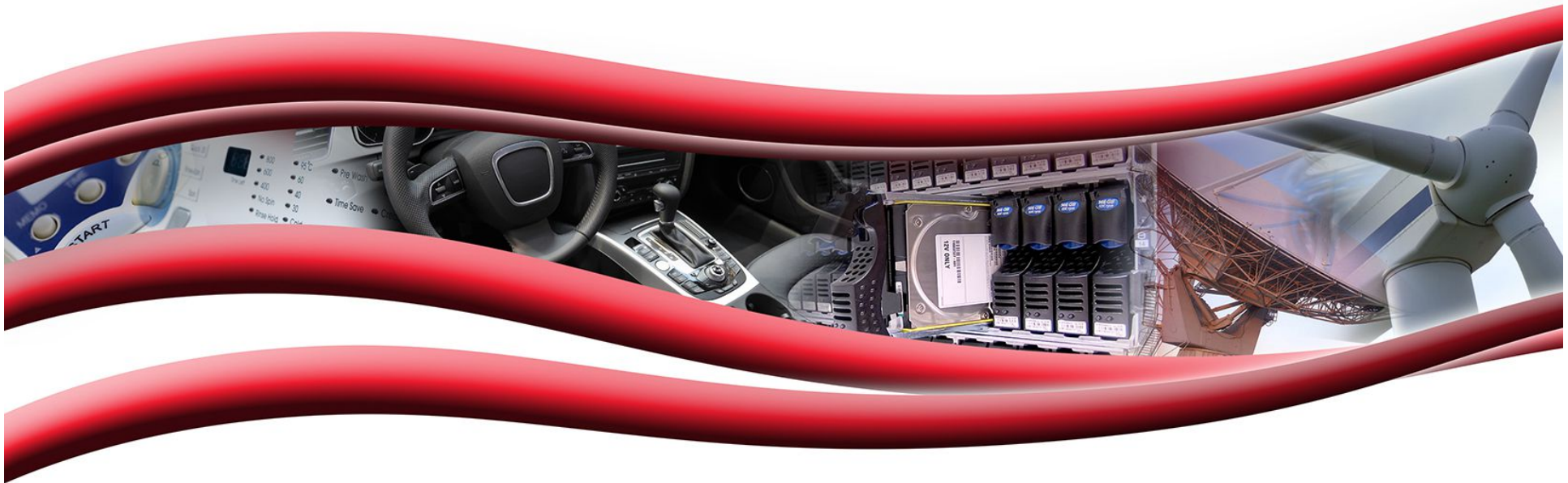




SPACE SPLICE

SPLICE01-MA-PS-NMB-FR039



June 2016 – Rev2

Designing **Technologies** Into **Solutions**

Space Splice

- **Product**

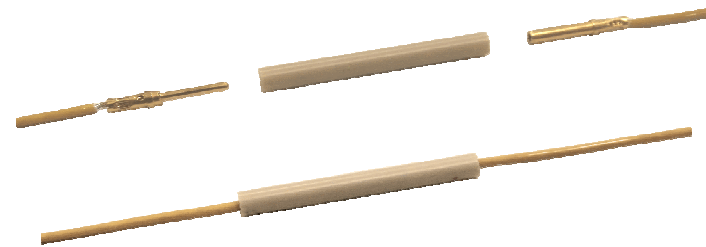
- One way connector.
- Replace hand splice process by a standardized solution.
- Designed to accept the most relevant cables gauges.
- Using D*MA crimpable and removable contact technology.

- **Market**

- Space activity for satellites purpose.

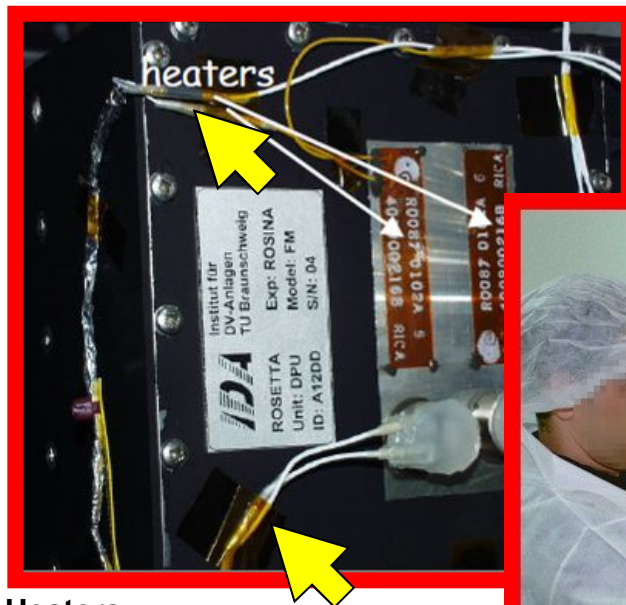
- **Applications**

- Single way connector.
- Thermistor connection.
- Heaters connection.
- MLI (Multi Layer Insulator) connection.



Where to use the Space Splice connector ?

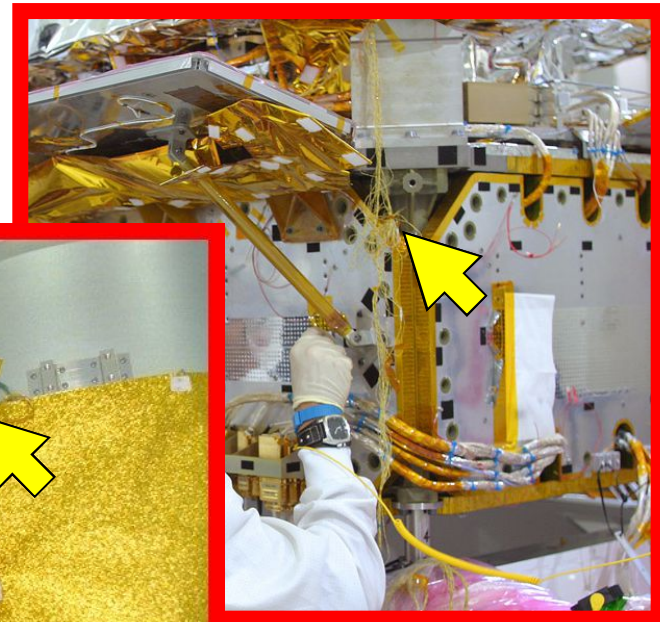
- **Based on a SatCom configuration :**
 - \approx 1000 single way connections
 - Current technology : splice by hand + added control operations + special records.



Heaters



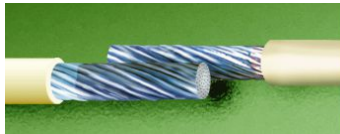
MLI (Multi Layer Insulator)



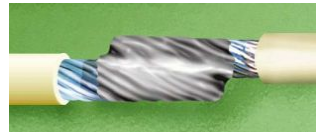
Thermistor

Current splice process examples

- **Lap Splice – For multi-wire cable**



Pre-Tin Conductors



Solder the conductors



Sleeving over soldered connection



Double Sleeving over soldered connection

- **Lash Splice – For multi-wire cable**



Pre-Tin Conductors



Lashing of pre-tinned conductors



Solder lash splice



Sleeve lash splice.

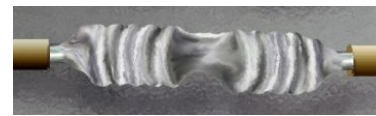
- **Western Union/Liman Splice – For rigid wire**



Initial Wrap



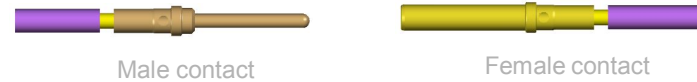
Complete Wrap



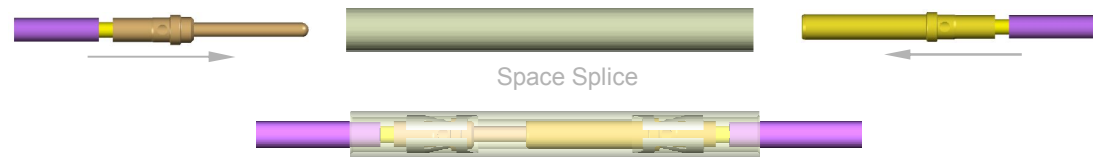
Solder the terminations and add shrinkable tube

How to use it?

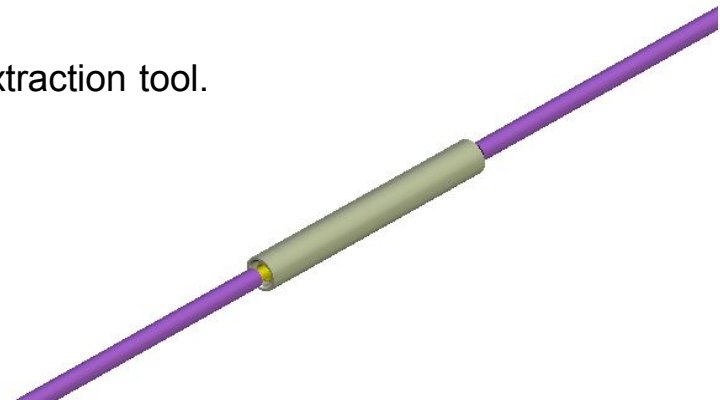
- Crimp the cable in both male and female D*MA contacts (As per for a D*MA connector).



- Set the contacts into the Space Splice.



- Release could be conducted using standard extraction tool.



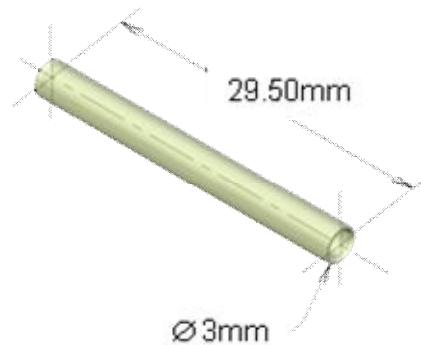
Comparative cost

- **Current process**
 - Pre-tin de wire conductors
 - Lash the conductors
 - Solder the lash splice
 - Inspection
 - Sleeve the connection
 - Quality assurance certification
- **Space Splice**
 - Crimp contacts
 - Set the contacts into the Space Splice
 - Inspection
- **Benefit**
 - **Reduce labor time** between 5 to 10 minutes per splice
 - Estimated cost saving 18 to 36\$ per splice

Features / Benefits

- **Main features**

Dimensions



Electrical and Mechanical Characteristics

CHARACTERISTIC	VALUE
Operating Temperature	-55 / +125 °C
Storage Temperature	-65 / +125 °C
Working Voltage (sea level)	300 Vrms
Voltage Proof leakage current	1250 Vrms
Insulator Resistance at 500 V DC	5000 MΩ min.
Maximum Rated Current	7.5 A
Contact Resistance	5 mΩ
Residual Magnetism Level (NMB)	< 200 Gamma
Radiation Resistance	> 1*10 ⁸ Rads
Contact Insertion & Withdrawal Force	1st contact < 18.5 N
Contact Insertion & Withdrawal Force	2nd contact < 21.8 N
Contact Retention	40 N max.
Weight	0.16 gr max.

Features / Benefits

- **Main benefits**
 - One way connector for linking 2 wires with removable contacts.
 - **Cost saving** by replacement of manual splices by **standard solution**.
 - Easy to use.
 - **EPPL2 Product** (ESA/ESCC European Preferred Part List part2).
 - Compact format and designed to accept the most popular gauges (AWG 20 to AWG30).
 - Low residual magnetism.
 - Low degassing.
 - High radiation and temperature resistance: PEEK material
 - Dedicated specification: CSFR039 (according to ESA/ESCC)
 - **Unique design patented.**