

Materials List for:

Plasma Actuators in Rarefied Super/Hypersonic Flows: Experimental Work to Enhance Spacecraft Control and Deceleration During Atmospheric Entries

Sandra Coumar¹, Viviana Lago¹

¹ICARE, CNRS, UPR 3021

Correspondence to: Sandra Coumar at sandra.coumar@cnrs-orleans.fr

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Materials

| Name | Company | Catalog Number | Comments |
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| Aluminium adhesive | Plasto Pro | 212 16 763 | Heat-resistant (100°C). Length 3,5 m x Width 47 mm |
| Acetone | RS Pro | 918-1082 | RS Pro 1L 3D printing acetone |
| RTV silicone glue | Permatex | 800368 | Temperature range -54°C to 343°C intermittent; resists auto and shop fluids. |
| Kapton tape | Eurostat | 42-020-0025 | Used in applications at temperatures as low as -269°C (-452°F) and as high as 260°C (500°F). High dielectric strength. Silicon adhesive protection leaves no residue. |
| Quartz model | ALC Quartz | On request | Beveled flat plate used for the experiments. |
| Drill | Atelier La Trouvaille | MTA3 | Hollow diamond drill of diameter 2 mm for the Holes 1 & 2. |
| Thermocouple | RS Pro | XS-338-RS | K-type thermocouple of a range from -50°C to 100°C. |
| DC Power supply | Spellman | SR15PN6 | DC Power supply delivering voltage from -1kV to -30 kV. |
| Motion controller | National Instruments | PXI-7344 | 4 controllable axis servo or step by step. |
| iCCD camera | Princeton Instruments | GenII | The PI-MAX is a high performance intensified camera system with a 1024x1024 pixels-array featuring a spectroscopy format CCD. It is fiber optically coupled to a Gen II filmless intensifiers. |
| IR camera | FLIR | ThermaCam SC 3000 | QWIP technology represents the longwave focal plane array (FPA) of 320 × 240 pixels. With its outstanding image stability and uniformity, the SC 3000 is ideal for applications where precision temperature measurements from -20 to 1500°C and high sensitivity are required. |
| Generating pressure manometer | MKS | 627D11TDC1B | Range of 10 Torr. 0,12 % lecture. |
| Static pressure manometer | MKS | 627D.1TDD1B | Range of 0,1 Torr. 0,15 % lecture. |
| Pitot pressure manometer | MKS | 122BA-00010AB | Range of 10 Torr. 0,5 % lecture. |
| Control unit for the generating and static pressure manometers | MKS | PR 4000B | The PR4000 is available as single or dual channel power supply, readout and control unit. 2 trip limits and 2 relays, can be |

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| | | | combined and configured in a wide variety of functions and combinations. |
| Control unit for the Pitot pressure manometer | MKS | PDR-C-2C | The MKS Type PDR-C-1C and PDR-C-2C are power supply and digital readouts which are packaged in standard half-rack mount units. The PDR-C-2C is designed to provide power for, and accept the outputs from two pressure sensors. The power supply for both the -1C and -2C is capable of providing ± 15 VDC at up to 600 mA. |