RSP Technology develops, produces and sells aluminium super alloys with high end properties. By using its own Meltspinning process, ultra fast cooling rates can be reached, converting more than 1 million degrees per second. As a result very fine nanostructured alloys with new functionalities are being developed and produced.

For the optical industry there are 3 main application areas:

1. Diamond machined mirrors
   1a. By replacing conventional 6061 with RSA-6061, surface roughness can be improved by a factor of 4. RSA-6061 can be delivered under official qualifications EN-755 and ASTM-B221.
   1b. If better properties are required, RSA-905 offers improved mechanical and physical properties.
   1c. RSA-443 can be used as mirror body with high stiffness and low thermal expansion matching Nickel coating. So bi-metallic effects do not exist anymore. The Nickel coating determines the surface finish; RMS values 1 - 2 nm.

2. Mould and insert applications
   Better and cheaper than any other alternative:
   RSA-905 offers huge advantages compared to conventional Cu-based alloys like brass, Cu-Ni and Cu-Be.
   • simple logistics and low cost as no coating operation nor post machining is required.
   • increase of mould life with about 100% compared with a Nickel coated surface.

3. Polished mirrors
   3a. RSA-443 can be used as mirror body with high stiffness and low thermal expansion matching Nickel. The polishable Ni-P coating offers RMS values < 1 nm.
   3b. RSA-905 is a polishable aluminium alloy offering RMS values < 1 nm.
   Initial tests look promising; MRF offers great opportunities.

RSP alloys can be produced in the following standard dimensions:

- Bars: diameters 18, 22, 26, 35, 45, 60, 65, 85, 105 mm
- Billets: diameters 200, 290, 360, 450, 500, 1,000 mm
- Any other size can be custom made in round, rectangular or any other shape up to 1,000 mm
- In co-operation with partner Hittech Group, RSP is able to offer parts and assemblies according to customers specification.

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Surface statistics:
- Ra : 0.65 nm
- Rq : 0.93 nm
- Rz : 13.23 nm
- Rt : 17.39 nm

Set-up parameters:
- Size: 640 x 480
- Sampling: 492.21 nm

Processed Options:
- Terms Removed: Curvature & Tilt
- Filtering: None