

RS Alloys Overview



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.

This overview gives an indication of the various alloys and their different characters and performances. This is a basis for covering a broad field of applications. Depending on customers requirements, RSP can offer a matching solution with a well balanced property profile. In case this is not enough, RSP is always listening to end customer needs, and is able to develop alloys in co-operative projects.

RSP alloys can be produced in the following standard dimensions:

- Bars: diameters 18, 22, 26, 35, 45, 60, 80, 110 mm
- Billets: diameters 200, 275, 500, 1.000 mm
- Custom made (near net) forgings
- Any other size can be custom made in round, rectangular or any other shape up to 1.000 mm
- In co-operation with shareholder Hittech Group, RSP is able to make parts and assemblies according to customers specification.

Alloy	Condition	Typical composition	Physical properties					Mechanical properties				Optics / Mirrors & Moulds	Precision Equipment	High Strength - High Temperature	Pistons	High Strength / Corrosion Resistant	
			Density ρ [gr/cm ³]	Thermal Expansion α [10 ⁻⁶ /K]	Stiffness E-mod [Gpa]	Specific Stiffness [Gpa/ g/cc]	Thermal Conductivity k [W/m.K]	Ultimate Tensile Strength UTS [Mpa]	Yield Strength YS [Mpa]	Elongation e [%]	Hardness [HB]						
RSA-6061	T6	Al Si0,6 Cu0,3 Mg1 (AA6061)	2,70	22,6	70	26	165	330	300	14	110						
RSA-443	AE	Al Si40	2,54	13,6	102	40	135	245	155	1,5	105						
RSA-905	AE	Al Fe2,5 Ni5 Cu2,5 Mn1 Mo0,8 Zr0,8	2,95	19,0	90	31	115	600	475	7	180						
RSA-8009	AE	Al Fe8,7 Si1,8 V1,3 (AA8009)	2,94	19,0	90	31	115	460	385	15	140						
RSA-4019	AE	Al Si20 Fe5 Ni2 (AA4019)	2,75	17,3	90	33	120	400	300	2,5	140						
RSA-461	T6	Al Si21 Cu4 Mg1,2 Fe2,5 Ni1,5	2,76	17,1	90	33	120	550	455	1	210						
RSA-462	T6	Al Si24 Cu1,8 Mg1,2 Fe0,4 Ni0,4	2,63	16,7	90	34	130	470	420	2,5	185						
RSA-431	T6	Al Si30 Cu1,5 Mg1,2 Fe0,4 Ni0,4	2,60	15,5	95	36	120	435	375	1	190						
RSA-612	T6	Al Si7 Cu2 Mg13,5	2,55	20,8	85	33	130	450	430	1,5	165						
RSA-601	T6	Al Si1,5 Cu1,2 Mg1,4 Mn1	2,75	21,5	72	26	140	500	450	10	150						
RSA-501	AE	Al Mg5 Mn1 Sc0,8 Zr0,4 (Scalmalloy)	2,65	23,0	70	26	140	575	525	12	160						
RSA-7034	T6	Al Zn11 Cu1 Mg2,5 (AA7034)	2,89	23,0	71	25	135	750	730	8	215						
RSA-453	AH	Al Si50	2,50	11,6	110	44	130	235	135	<1	140						
RSA-463	AH	Al Si60	2,47	9,7	117	47	125	230	130	<1	180						
RSA-473*	AH	Al Si70	2,43	7,8	125	51	120	220	125	<1	200						
RSA-483*	AH	Al Si80	2,40	6,0	132	55	115	200	120	<1	220						

* Marked alloys are under development

