

SupremEX[®] 255XE

Smiths High Performance



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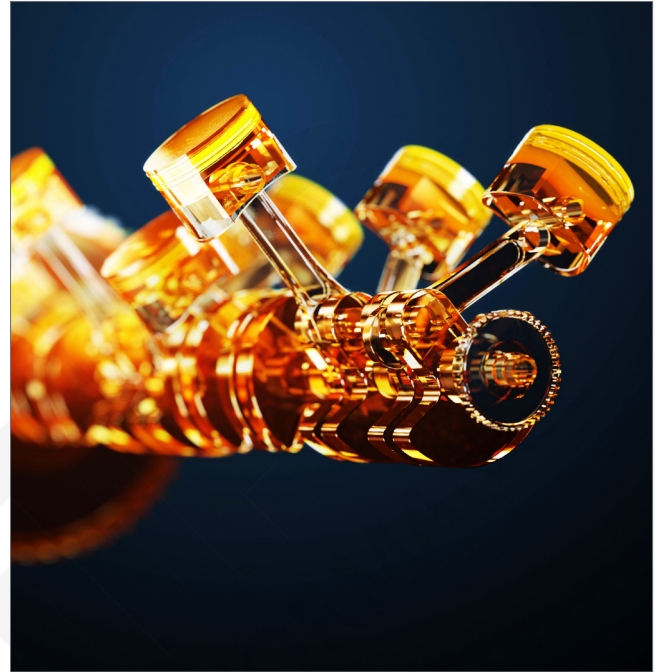
Weight Saving Capabilities

SupremEX[®] 255XE is a specialist aluminium-based alloy boasting impressive performance characteristics.

Based on 2124A aluminium, the material is reinforced with 25% silicon carbide, which results in a metal matrix composite (MMC). The mechanical alloying process results in a homogeneously stable microstructure.

This heat-treatable product provides high strength, increased component stiffness and high fatigue resistance. The alloy also benefits from improved hardness, low friction and wear-resistant characteristics.

The impressive mechanical properties also result in a product with an excellent strength to weight ratio. We offer SupremEX[®] 255XE in billets (to AMS 4355), forgings and extrusions. Overall machinability is good when using conventional techniques.



Applications:

The alloy is highly suitable for applications requiring high strength and stiffness.

Typical applications include:

- Motorsport components
- Structural applications
- Aerospace structures and components
- Weight saving applications
- Chassis components

About Smiths High Performance

Smiths High Performance is a leading stockholder and supplier of high-performance engineering materials. We are material supply chain partners supporting high-technology market sectors.

Further technical data available on the reverse of this Datasheet

Benefits:

- Excellent strength-to-weight ratio
- Increased component stiffness
- High strength
- High fatigue strength
- Wear and low friction resistance



Processing:

We use state-of-the-art processing equipment to cut your material to your specific size requirements. We undertake processing in-house and often process and dispatch material on the same day.

We also stock material in metric and imperial sizes.

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*Mechanical Properties

Product Form	Billet			Forged Plate		Extruded Bar (30:1)
Heat Treatment	T4 CWQ*	T6 HWQ **	T6 PGQ***	T4 CWQ*	T6 PGQ***	T6 PGQ***
R _p 0.2 MPa (ksi)	470 (68.2)	440 (63.8)	400 (58.0)	440 (63.8)	400 (58.0)	400 (58.0)
R _m MPa (ksi)	570 (82.2)	550 (79.8)	535 (77.6)	610 (88.5)	570 (82.7)	600 (87.0)
Elongation to Failure (%)	1.8	1.9	2.0	3 - 4	3 - 4	4 - 5

Data is for information purposes only - it does not constitute a guarantee.

- * CWQ = cold water quenched
- ** HWQ = hot water quenched
- *** PGQ = poly-glycol quenched

Physical Properties

Density g/cm ³ (lb/in ³)	2.88 (0.104)
Elastic Modulus GPA (msi)	115 (16.7)
Specific Stiffness GPA (g/cm ³)	39
Poisson's Ratio	0.3
Thermal Conductivity W/m ² K (BTU/hr.ft. ² °F)	150 (87)
Thermal Expansion ppm/°C (ppm/°F) @ 25°C	16.1 (8.9)
Solidus °C (°F)	548 (1,018)
Specific Heat Capacity J/g°C (BTU/lb°F)	0.836 (0.200)

...where performance matters...

When you purchase high-performance materials from **Smiths High Performance**, you will join some of the biggest and best global engineering companies. We are a Tier 1 supply chain partner to the world's leading motorsport companies. Our unique business structure and ethos allow us to offer services otherwise unavailable in this market sector.

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