

— The lightest wheel in the world —  
**Super Duralumin Forged Wheel**

# RI-D

Extra Super Duralumin Forged One-Piece Wheels are the wheels made from the material used for aircraft, JIS A7000 series alloy.

Based on the forging techniques we have been developing for many years, we have made this next generation alloy wheel that is lighter and tougher.

JIS A7000 Extra Super Duralumin is a very difficult material to work. However, taking advantage of our refined forging and heat treatment technique, our Extra Super Duralumin Wheels are the first wheel in the world which have not only enough strength but also excellent corrosion resistance having passed tests such as the concentrated corrosion acceleration liquid test (immersion in approx. 13 times as strong as seawater), the SCC test (JIS H-8711) and the CASS test (JIS H-8502).

〈PCT patent applied〉

	Tensile strength [MPa]	0.2% Proof stress [MPa]	Elongation [%]	Charpy impact value [J/cm <sup>2</sup> ]	Weight [kg]	Weight ratio [%]
<b>Super Duralumin Forged Wheel</b> RI-D 001 19"× 9.0J RI-D 002 19"×10.0J	521	449	13.2	17.9	7.2 7.5	65.5 68.2
A6000 series Forged Wheel of the same size	352	302	12.5	27.9	9.8	89.1
German car "B" OEM Cast Wheel of the same size	243	180	4.5	6.3	11.0	100

Super Duralumin Forged Wheel	
JIS D4103 JW / VIA test results	
Cornering Fatigue Test min. 100,000 cycles required	cleared 3 million cycles
Radial Fatigue Test min. 500,000 cycles required	cleared 3 million cycles

JIS H 8711 test 90 days	Direction most stretched against the forging direction		Direction most compressed against the forging direction	
<b>Super Duralumin Forged Wheel</b>	No SCC* detected	PASS	No SCC* detected	PASS

Corrosion resistance test	JIS Z 2371 Salt spray test 1000hours	PASS
<b>Super Duralumin Forged Wheel</b>	JIS H 8502 CASS test 240hours	PASS

It is generally said that 1kg unsprung weight reduction corresponds to approx. 15kg weight reduction at the maximum in terms of drivability of a driving car. Our 19" duralumin wheel has made 4kg reduction per wheel possible compared to a genuine wheel of a car manufacturer. 4kg × 4 wheels × 15 times (max.) = 240kg! Car manufacturers in the world are now paying attention to super duralumin forged wheels in view of ecology and driving comfort.

**The Effect of Wheel Weight Reduction**  
 [ From results of over 100,000 customer questionnaires ]



- Low unsprung weight gives fast reaction to bumps  
 ..... **Smooth ride**
- High unsprung weight results in SLOW reaction  
 ..... **poor ride and poor comfort levels**