

4032 Chemical Composition:

Element:	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Al
Std Value:	11.0-13.5	1.0	0.50-1.3	/	0.8-1.3	0.10	0.5-1.3	0.25	/	
Act Value:	12.40	0.34	0.83	0.03	1.02	0.01	0.79	0.03	0.01	BAL

2618 Chemical Composition:

Element:	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn	Ti	Al
Std Value:	0.10-0.25	0.9-1.4	1.9-2.7	/	1.3-1.8	/	0.9-1.2	0.10	0.04-0.10	
Act Value:	0.15	1.2	2.16	/	1.5	/	1.0	0.05	0.05	

4032 Mechanical Property

Tensile Strength(Mpa)	Yield Strength(Mpa)	Elongation(%)
Std Value: 360Mpa	290Mpa	2
Vct Value: 360-370Mpa	310-320Mpa	2-3

2618 Mechanical Property

Tensile Strength(Mpa)	Yield Strength(Mpa)	Elongation(%)
Std Value: 440-450Mpa	370-380Mpa	9-11
Vct Value:		

4032 VS 2618 Coefficient of Thermal Expansion (热膨胀系数)

2618 aluminum expands approximately 15% more than 4032 aluminum, thus the 2618's initial piston-to-wall clearance has to be 15% greater. This difference is most noticeable during a cold engine start. When cold, the 2618 piston can rock back and forth producing a slight noise (sometimes referred to as piston slap) until the aluminum expands. Both types of aluminum have approximately the same clearances once the pistons have expanded and the engine is running at operating temperatures.

2618 的热膨胀系数比4032 大约为15%，所以在安装时2618 活塞的空隙要比4032 的大约为15%。这种差异在发动机冷启动的时候最为易见。当冷启动时，2618 活塞往返来回运动会产生轻微的噪音，直到活塞热膨胀完全。一旦温度达到，这两种类型的活塞都会有大致相同的间隙。

The List of Making Process as Below:

- 1, dimension S-can
- 2, Forging die and forged piston blank design
- 3, Forgeding die's making
- 4, Forged piston blank's making

5, Heat-treatment process

6, CNC-machining

7, All forged pistons weight balance is $\pm 1.5\text{g}$ per set

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