

**5xxx series alloys technical data**  
5系合金的技术数据

**STANDARD DIMENSIONAL AVAILABILITY**  
标准尺寸

Alloy 合金	Temper 状态	Thickness(mm) 厚度(mm)		Width(mm) 宽度(mm)	Length 长度(mm)
		Min最小值	Max最大值	Max最大值	Max最大值
<b>Mill Finish 轧制后的光亮板</b>					
5251	F	6.35	20	3150	20000
5052	O	>20	113	2978	
5454	H111	>113	103.2	2967*	
5754	H112				
5456	F	>203.2	590	2080	3150
5083	<b>Brushed Finish (available one or two side film coated—on request)</b> 拉丝板（一面或是两面可以涂覆的）				
5086	F O H111	8	70	2400*	8000
<b>Mill Finish 轧制后的光亮板</b>					
5754	H32 H321 H116				20000
5456		6.35	13	2880	
5083		>13	73	2978	
5086		>73	203.2	2708*	
<p>1. These dimensions show only the range of capabilities and cannot necessarily be provided in every combination of these sizes. Other sizes may be available, subject to enquiry. 这些尺寸只是我们展示的一个范围，有些任意组合的尺寸我们不一定能提供，根据要求我们还能提供其他尺寸和规格的产品。</p> <p>2. Where indicated, both Mill Finish and Brushed Finish are available 需要指出的是轧制后的光亮板和拉丝板我们都可以提供</p> <p>3. * denotes maximum width decreases with increasing thickness 带*号的表示随着宽度的减小，厚度增加</p>					

With a broad combination of desirable properties 5XXX series alloys are used for many applications.

由于5系合金具有非常好的综合性能，它的应用也很广泛

**Application 应用**

- Cryogenic applications: production, storage and transportation of liquid petroleum and industrial gases  
低温应用产品：储存和运输石油以及工业气体等
- Pressure vessels 压力容器
- Hulls and superstructures of ships such as fast ferries, naval craft and workboats  
船体或是建筑物的外层，比如说：快艇，海军船和施工船
- Road transport: commercial vehicles and trailers  
公路运输：商用交通工具和拖车等
- General Engineering: mechanical components, jigs, fixtures, flat beds, base

plates and general tooling.

普通的工程应用：机械部件、夹具、工装夹具、平台、底板和普通工具。

Most 5XXX alloys are ordered to the fully annealed O condition. H321 and H116 tempers are often used in transport applications. H321 and H116 tempers are work hardened to increase strength. The most widely used 5XXX alloys are 5083, 5086 and 5754.

大部分的5系合金都是要求完全退火到O态。H321和H116状态经常在交通运输工具上应用。H321和H116态通过加工硬化来提高强度。应用最广泛的5系合金为5083，5086和5754。

## 5083 & 5086

5083 offers the highest strength of all non heat treatable alloys, containing approximately 4.5% magnesium, 0.7% manganese and 0.13% chromium. 5083合金在不可热处理合金中具有最高的强度，它包含大约4.5%的镁，0.7%的锰和0.13%的铬。

5086 is less highly alloyed than 5083, containing approximately 4.0% magnesium, 0.50% manganese and 0.13% chromium. This results in lower strength but greater ductility compared to 5083.

5086合金比5083合金的强度稍低些，包含大约有4.0%的镁，0.50%的锰和0.13%的铬。与5083比较，它具有稍低的强度和更好的延展性。

5086 is favoured when making fabrications which require greater formability than offered by 5083.

当加工过程中对延展性的要求较高时，5086是比5083更好的选择。

## 5754

Unlike 5083 and other alloys with more than 3.5% magnesium, 5754 is resistant to intergranular corrosion and stress corrosion cracking after exposure to elevated temperatures (above 65° C). For this reason, it is the preferred alloy choice for applications involving prolonged exposure to such temperatures, e.g. transportation of hot liquids.

与5083和其它含镁高于3.5%的合金不同的是，5754具有较好的抵抗晶间腐蚀和在逐渐升高温度（高于65° C）的环境中抵抗腐蚀的能力。基于这个原因，在应用于高温下（比如温度较高液体的运输）时，这个合金是较好的选择。

## FORMABILITY 成形性

Alloy/Temper	Thickness 厚度					
	6 mm		9 mm		12mm	
	O	F	O	F	O	F/H32
5052/5251	1t	2.5t	1.5t	2.5t	2t	3t
5454/5754	1t	3t	1.5t	3.5t	2t	4t
5083/5086	1.5t	3t	1.5t	3.5t	2t	4.5t