

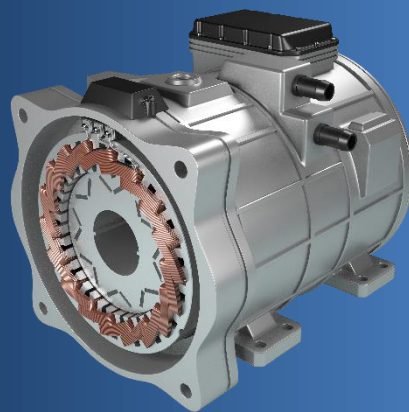


应用于电机的非晶合金

Amorphous alloy for motor

通过将非晶合金应用于电机铁芯，
可以实现适应于高转速需求的高效电机设计

By using an amorphous alloy for the motor core,
A high-efficiency motor suitable for high rotation can be realized.



电机

概要

通过降低电机铁心的铁耗，实现以下效果

Motor core iron loss reduction achieved the following effects.

◆ 电机高效节能的解决方案

Energy saving by improving motor efficiency

◆ 有效降低电机的发热

Reduction of motor thermal generation

特点

▼ 非晶定子铁芯的优势如下

Confirmed the following with an amorphous stator core.

• 铁耗降低至 1/5

• Iron loss reduced to about 1/5

• 高转速区域的效率改善为 3% 以上

• Efficiency improvement of 3% or more in the high rpm range

• 同区域的发热量减少一半

• Motor thermal generation can be reduced by half

注：使用Φ215mm×50mm的永磁同步电机评测损耗

Note: evaluated loss of IPM motor (Φ215mm × 50mm stator core)

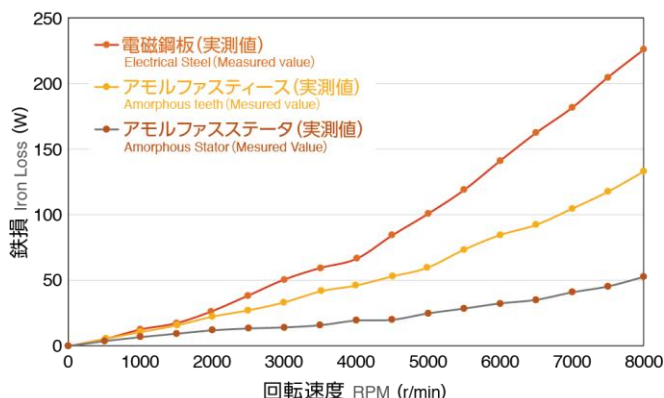
用途

低负载・高转速电机

Low Load・High rotation speed Motor

测试用样机的铁耗测试结果

Iron loss evaluation result of prototype motor



测试用样机的效率对比

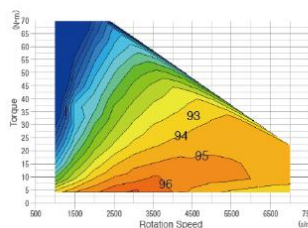
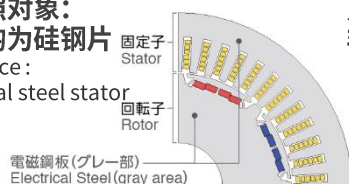
Efficiency Comparison of prototype motor

对比参照对象：

定子均为硅钢片

Reference:

Electrical steel stator



对比电机：定子均为硅钢片

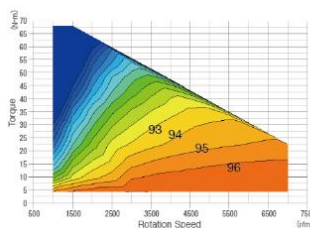
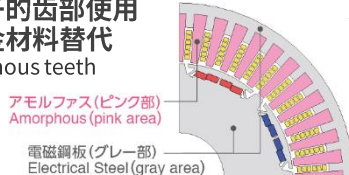
Reference: Electrical steel stator

只在定子的齿部使用

非晶合金材料替代

Amorphous teeth

stator



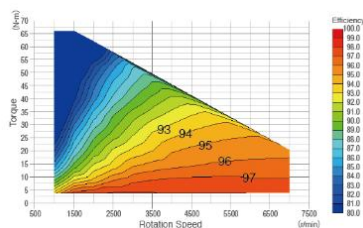
定子齿部使用非晶

Amorphous teeth stator

定子整体使用

非晶合金材料替代

All amorphous stator



定子整体使用非晶

All amorphous stator