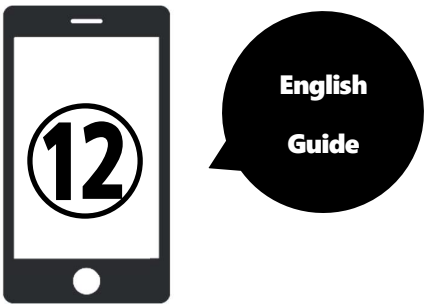

Here we have 3 different reinforcing bars made by iron. Even though people say “iron”, because of the differences of the carbon amount inside, its property will be totally different. Let’s check the sound of the reinforcing bars. On your left is pig iron which doesn’t echo well. Pig iron is strong but fragile. The middle (steel) and your right side (pure iron) echo very well. As you can see on the wall, if you weight and try to change the shape of pig iron, it will break with a snap. On the other hand, steel and pure iron won’t break even though you weigh and make a big change of the shape. A blast furnace makes irons which is the pig iron. As we mentioned before pig iron contains lots of carbon and is fragile so that it is not suitable for building towers, like “Sky Tree”. Very strong steel made our lives change. It made possible to build railways, huge tankers or a skyscraper. If we can’t produce steel with huge amount and low cost, our lives supposed to be very different from the one what we have now. On your right, you will see 2 panels about convertor. Bessemer invented epoch-making convertor in 1856. It made possible to convert large amounts of pig iron into steel. Look at the panel aside on your right. Until Bessemer’s convertor came to the world, wrought iron was produced by paddling furnace. It was a kind of pure iron and used for Eiffel Tower. Paddling furnace used the method by paddling or by stirring and mixing while the furnace being heated. But 10 hours operation brought few hundreds KG wrought iron in fact. As contrast with paddling furnace, Bessemer Convertor could keep the high heat and produced 25t steel in 30 minutes. How did he do it? Please look back now. This is the Bessemer Convertor 1:2 scale model. Let’s have a look of explanation panel. As you can see the diagram on the panel, you turn the convertor and pour melting pig iron into it then turn the convertor again with blowing the air in from the bottom of convertor. Just like that, the carbon of pig iron reacts with oxygen to form carbon dioxide gas, and other impurities also turn to gas or slag. Plus since heat is generated when carbon reacts with oxygen, there is no need to heat it up from the outside, so this was exactly outstanding invention. By the way the iron inside the convertor is melting. On the other hand the convertor itself made by iron is NOT melting. Why is that? A hint will be the bricks at the bottom of the convertor. These are firebricks and they were used for the wall of the convertor inside. Next will be about stainless steel flowers.