

METRIC VS STANDARD

This has been a controversial statement since 1956 when America adopted the feet and inches measuring system.

In my opinion this was a bad move on the USA's part.

Our feet and inches measuring systems, fractional or decimal, are very complicated, extremely difficult to calculate, conversion is even more difficult. Decimal measurements of feet and inches are somewhat easier but still far behind the metric system as far as being easy to use.

The problem we have in the USA is that we have one inch decimals, one foot decimals and then one mile decimals, with the metric system you only have one common denominator and with ours you have many which only adds to the confusing and complicated procedure of using the USA standard feet/inches and mile measuring system.

I'll include the gaging system and the volume system that the USA uses right along with that especially when we carpenters calculate concrete and materials.

I am not writing this article so that I can argue with any of you; I am writing it to give you my opinion and examples of procedures I use to save time and to simplify my carpentry procedures. Use these or do not use them, it's up to you.

Calculators work off of the number one (1). Some

carpenters think the remainder of the sum on a calculator is inches. The remainder on a calculator is tenths, hundreds, thousandths, ten thousandths and so on.

This is a list of just some of USA's measuring systems.

Fractions, Inches, Feet, Yards, Rods, Leagues, Fathoms, Furlongs, Miles, Nautical miles, Knots, Wire gages, Steel gages, Galvanize gages, Birmingham gages, Zinc gages, Pipe sizes Pipe wall thicknesses, Decimals of inches, Decimals of feet, Decimals of miles, Penny nail size lengths, Common, box, finish nail thicknesses, Screw gages, Shotgun pellet gages

Most of these have different denominators as to referencing to a calculator's answer you see on the screen.

As I said, the metric system has only one, and that is a one.

It would take me 20 pages to explain all of the USA's measuring systems and most of their nonexistent relationships and conversions.

I can explain the metric system in one word, ONE.

I am going to give you a few examples of what a construction worker runs into using these different systems and how it's done using the metric system.

If you need to drill a hole exactly the size of $\frac{3}{4}$ " pvc in the USA you have to mic the outside dimension and then try to find a bit that size, which is impossible,

the pipe doesn't measure $\frac{3}{4}$ " anywhere. Now you get a metric piece of pipe 19mm and get a 19mm bit and you are done.

When you go to get a piece of metal or roofing in the USA the size will be in gages. You will have to get a chart to tell you the thickness (if you know which of the four gages the manufacturer used??) **Not in England, the callout is the thickness.**

When you go to buy some wire in the USA it will be called out in wire gages. In **England the call out of the wire is the size in mm's.**

When you need a 4" nail in the USA you need to know the penny length in inches and still you won't know the thickness. In **England you will tell the salesman you want a 2mm x 102mm and then you know all about the measurements of the nail, it's written on the box.** Tell me how long a 50 penny nail is, or a 60 penny nail and or the thickness of a common or the thickness of a finish nail, thickness of a box nail.

A carpenter is laying out balusters for a guard rail and has a measurement of 7' 9 $\frac{11}{16}$ " and needs to divide it into $4\frac{3}{4}$ " segments, confusing to say the least. **A British carpenter takes his 2380mm and divides it by 120mm and he is done while the American carpenter is trying to change his fractions into decimals to**

calculate and then back to fractions so he can read his tape and mark the balusters.

You are doing elevations on a slab and your elevations are in tenths of a foot but your carpenters only have fractional tapes. You're standing there converting measurements for them and trying to keep your mind on the business of getting these elevations correct. **Not in England, all of your elevations and distances have one measurement denominator, the number one.**

A carpenter has a slab that is 12' $1\frac{1}{4}$ " x 16' $1\frac{1}{2}$ " x 4" and needs to calculate the yards. Not easy to do, then try the metric way of calculating concrete. **A British carpenter has the same slab 3.689m x 4.915m x .102m then he enters the numbers on a calculator and it gives him his answer, 1.85 cubic meters of concrete.** The British carpenter has already ordered his concrete while the American is trying to change all his measurements to tenths.

Email me if you can calculate the yardage faster than the cubic meters. I doubt if I get many emails on the concrete calculation or any of these other procedures of standard verses metric.

I could go on and on about the simplicity of the metric verses the USA's complicated standard

version of measuring and how it affects our construction business of measuring and calculating, costing America millions and millions of dollars a year in time and correction of mistakes that we brought on ourselves. I understand at our ports some countries refuse to ship into our ports because of our complicated system of weights.

American engineers, architects and construction people literally spend hundreds of hours trying to learn all of the different measuring systems the US uses. It is, I would say, impossible to learn and memorize all of it.

British people spend no time learning theirs, it's the number 1. I have read and heard of many theories as to how they came up with the meter. I guess the person that said it is the distance from the floor to the center of a door knob will work for me as it is if you measure a hollow metal jamb from the bottom to the center of the knob or strike, it is usually a meter, 39.37".

One thing you need to remember when your answer is 89.6:

The .6 is 600 micrometers. .06 is 60 micrometers, .006 is 6 micrometers. A millimeter is 1/1000 of a meter. A micrometer is 1/1000th of a millimeter. The next is nanometer. I could go on and on about how easy and accurate the metric system is for me as a carpenter to use.

My first assignment using the metric system was in Bucca, Iraq, in '08. It changed my mind totally. In November '09 after I got back from Afghanistan I was sent to Taji, Iraq.

I worked hard at trying to understand and use the metric system then one day a British carpenter told me all you have to remember is the number one. One, being a meter, a millimeter, a micrometer or a nanometer. Whatever your whole numbers are the smaller measurement follows the period on your calculator. It really helped and now I use the metric system daily. This is what was confusing to me was trying to figure out what the numbers meant following my whole numbers. I then got it.

If you don't remember anything else about this article remember this. Any time you are using the feet and inches system and need to do almost any calculation in construction I can do it using the metric system in about a tenth of the time and most of the time I will be more accurate with the metric system.

Most old hardheaded carpenters like me have a hard time changing. We are probably the most hardheaded people in the world. We have been using feet and inches for over 50 years but I have learned that there is an easier way.

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