

Ask Jon Eakes

What are the 19-3/16+ marks on a tape measurer for?

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Dan wrote in asking what is that little diamond mark on his tape measurer at 19-3/16 inches?

Look further down the tape and you will see it repeated every 19+ inches, always at some imprecise measurement, not really a multiple of 3/16 of an inch. Finally when you get to 8 feet it is dead on. In fact if you divide 96 inches by 5 you will get 19.2 inches, a decimal measurement on a fractions tape.

These marks are for laying out 5 engineered flooring trusses per 8 feet, like those wooden I beams.

Studs and traditional floor joists are usually either 16 or 24 inches on centre, and every 16 inches on the tape is marked with a triangle. Three times 16 is 48 -- so you get an even three spans every 4 feet. With 24 inch spacing you get two spans in 4 feet. Both work for nicely fitting 4 foot wide panels, like drywall or plywood.

Floors are usually laid out on the 8 foot run -- 24 inch centers will give you 4 spans in 8 feet -- but engineered floor trusses are lighter and less expensive than solid wood, but require one more support in that 8 foot span, giving 5 spans in 8 feet. That means that you have to install floor trusses on 19.2" centers -- which is exactly what those diamond marks are for.

They are referred to as a 'truss marks'. Thanks Stef for a 2017 correction to my original entry made way back in 2003.

And in 2018, Tom gives us a lesson in history showing that people were using 5 spans in 8 feet a long time ago:

"I've been noticing across the internet that the common answer to the "black diamond framing" question is that it is for engineered trusses. In fact, the markings pre-date engineered lumber by probably over 100 years. It's really common to find diamond spaced framing on the floor joists of homes build around the turn of the century (1900). Thinking about it, using diamond framing now would be problematic because there is no insulation designed to fit it." Thanks Tom. You are right it might be problematic for wall framing, and really not necessary from a structural point of view, but floors are not often insulated and do need more strength.

Keywords:

Tape, Layout, Measuring, Dimensions, Mystery