A measurement scheme applied to a cross tee member accounting for an offset between the tee and a cross-sectional center point of a main tee measured to a wall angle. The cross tee exhibits an overall length with first and second opposite lip supporting edges. A cross section of the cross tee including a tile support and a web extending in substantially perpendicular fashion from a midpoint of the support. First and second connector clips extend from first and second edges of the cross tee. An overall rated length of the cross tee corresponds to a linear distance measured between center line locations associated with inserting portions of the connector clips. An indicia marking scheme is applied at linear extending intervals along the cross tee, an outermost selected indicia marking establishing a first specified linear distance with a centerline location of a selected one of the connector clips. The marking establishes a second specified linear distance with a further selected marking to determine a sectionable length of the cross tee equaling the dimensional offset existing between the main tee and the wall angle.
SECTIONING SCHEME APPLIED TO TWO- OR FOUR-FOOT CROSS TEE MEMBERS ASSOCIATED WITH A CEILING GRID SYSTEM AND ACCOUNTING FOR AN OFFSET EXISTING BETWEEN AN ASSOCIATED END OF A CROSS TEE AND A CENTER POINT OF THE MAIN TEE MEASURED TO AN OPPOSITELY POSITIONED WALL ANGLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to cross tee members utilized in a ceiling grid assembly. More specifically, the present invention is directed to a two- or four-foot cross member incorporating a measurement scheme specifically tailored to account for a dimensional offset existing between an associated end of a cross tee and a center point of the main tee measured to an oppositely positioned wall angle.

2. Description of the Prior Art

Suspended structures for creating ceiling grids are fairly well known in the art, the concept behind such structures being to provide suspended support for ceiling tiles. The tiles are typically rectangular shaped and acoustically insulating in nature and function to recreate a uniform and “dropped” ceiling appearance to an interior enclosure with an unfinished ceiling, such enclosures including commercial building interiors, as well as basement ceilings in residential dwellings.

U.S. Pat. No. 4,677,802, issued to Vukmanic, discloses one known arrangement of suspended ceiling system and runner and which is characterized by each of the runners being composed of a first member and a cap member. The first member is bent to form an inverted T-bar configuration with a groove extending inwardly from the flange of the T and the cap member having the same configuration and being secured on the flange of the T-bar configuration to form a channel with flange portions on each side for supporting panels of the ceiling system.

U.S. Pat. No. 4,712,350, also issued to Vukmanic, discloses a centering arrangement for members of a suspended ceiling for holding a plurality of panels supported by the runners in a desired position on the flanges of the runners. The centering arrangement includes a bump extending from each side of a cross-sectional web profile of the runner, the bump being formed in the web immediately adjacent a cut in the runner so that the drawing of the material into the bump will not draw material from the flange or adjacent thereto. The bump shape is preferably “half-moon” or semi-circular in configuration and so that it provides a smooth camming surface for both lateral movement of the panel along the flange as well as vertical movement towards the flange.

U.S. Pat. No. 4,525,973, again issued to Vukmanic, teaches a suspended ceiling system again teaching main runners and cross runners which are inter-engageable to define a rectangular grid system. Suitably configured and elongated apertures are formed in the webbed profile of the main runners in axially spaced apart fashion and which receive an appropriately configured connecting end of selected cross runners and so that the cross runners are engaged to the main runner in mutually engaging fashion and on opposite sides thereof.

U.S. Pat. No. 6,477,815, issued to Paul et al., teaches a suspended ceiling grid structure with main runners incorporating a coded matching indicia for receiving cross runners in a desired spaced apart fashion. Of note, the marking indicia is applied to selected channels of the main runners and identify proper location of the cross runners prior to engagement of the connector clips within the main runner channels. The marking indicia may further include coding selected channels according to at least one-color indicia.

Finally, U.S. Pat. No. 6,526,716, also issued to Paul, teaches a suspended ceiling grid structure with main runners incorporating measurement indicia for establishing a border dimension for engagement by a cross tee. The indicia scheme is applied to the main runner and extends from at least one of the first and second ends of the runner. The indicia scheme is applied to the main runner and extends from at least one of the first and second ends of the runner.

The scheme further coincides with the placement and location of at least a first of the elongated channels positioned relative the selected and main runner end. The scheme establishes a defined distance from a second and succeeding elongated channel positioned along the main runner. The first and second elongated channels correspond, respectively, to primary and secondary reference points proximate the extending end of the runner. The measurement scheme is employed, upon selection of one of the primary and secondary reference points, to establish a correct border distance of the main runner for sectioning and prior to location of the cross runners and engagement by the connector clips, associated with the cross runners, within the main runner channels.

SUMMARY OF THE PRESENT INVENTION

The present invention discloses a measurement scheme applied to a cross tee member and which accounts for an offset between the tee and a cross-sectional center point of a main tee measured to a wall angle. As will be further explained, the present invention makes possible quick and easy sectioning of a portion of a two- or four-foot cross tee, and in order to mount the cross tee between an inter-engaging location of a main tee and a parallel spaced-apart wall angle.

As is known, the cross tee is of conventional construction and exhibits an overall length with first and second opposite lip supporting edges. A cross section of the cross tee includes a lip support and a web extending in substantially perpendicular fashion from a midpoint of the support.

First and second connector clips extend from first and second edges of the cross tee. An overall rated length of the cross tee, such as two feet (24") or four feet (48") corresponds to a linear distance measured between centerline locations associated with inserting portions of the connector clips.

An indicia marking scheme is applied at linear extending intervals along the cross tee, an outermost selected indicia marking establishing a first specified linear distance with a centerline location of a selected one of the
connector clips. In the preferred embodiment, the first specified distance is one (1”).

[0015] The marking establishes a second specified lineal distance with a further selected marking and in order to determine a sectionable length of the cross tee equaling the dimensional offset existing between the main tee and the wall angle. The indicia scheme permits for quick inspection and sectioning of a selected portion of the cross tee, without reference to other measurement tools, and in order to achieve a correct lineal distance corresponding to a remaining (typically less than 48” or 24”) parallel distance between a wall angle and a proximate and parallel extending main runner.

DETAILED DESCRIPTION OF THE DRAWINGS

[0016] Reference will now be made to the attached drawings, when read in combination with the following detailed description, wherein like reference numerals refer to like parts throughout the several views, and in which:

[0017] FIG. 1 is a perspective view of a room enclosure situated ceiling grid assembly and including main runners, wall runners, and angled wall angle for supporting ceiling tiles;

[0018] FIG. 2 is a partial exploded view illustrating an arrangement of main tee runner, cross tee runner, and wall angle, and in particular an offset existing between a linear dimension extending between opposing lip edges of the cross runner and a corresponding linear dimension extending between a main runner web and an associated surface of a wall angle;

[0019] FIG. 3 is a plan view of a selected four foot cross tee and referencing an offset dimension between a linear distance taken from center line locations of opposite extending connector clips of the cross tee and an associated linear dimension between lip edge locations associated with the cross tee;

[0020] FIG. 4 is a corresponding plan view of a two-foot cross tee;

[0021] FIG. 5 is an enlarged partial view of an end location of the cross tee of FIG. 3 and further illustrating the offset arrangement between a center line location of the connector clip and the lip edge; and

[0022] FIG. 6 is a partial arrayed view in perspective of intersecting ends of a main tee and cross tee and illustrating in particular an offset existing therebetween.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Referring to FIG. 1, a general illustration is shown at 10 of a drop ceiling grid structure which incorporates the marking system according to the present invention. The grid structure shown is of a typical configuration and which includes parallel and extending main tees (or runners) 12, 14, 16, et. seq., cross-wise extending cross tees 18, 20, 22, et. seq., and surface mounted wall angles 24 and 26.

[0024] Referring now to FIG. 2, a partial exploded view illustrates an arrangement of selected main tee runner 12, cross tee runner 18, and wall angle 24 and in particular an offset existing between a linear dimension extending between opposing lip edges of the cross runner and a corresponding linear dimension extending between a main runner web and an associated surface of a wall angle. Both the cross tee runner 18 and main tee runner 12 shown include a tile support (see at 28 for cross tee and at 30 for main tee) as well as a web extending in substantially perpendicular fashion from a midpoint of the support (see further at 32 for cross tee and at 34 for main tee). Wall angle 24 further exhibits first and second angled and interconnected edges, and as shown at 36 and 38 in FIG. 2.

[0025] As further shown in the exemplary representation of FIG. 2, the cross tee 18 can exhibit an overall length 40 of either 23” (for a two-foot length) or 47” (for a four-foot length) and which extends from oppositely extending lip edge to lip edge (as will be further described). In comparison, a typical (non-sectioned) measurement between parallel situated main tees and wall angles is either 24” (two feet) or 48” (four feet) and as referenced further at 42.

[0026] Referring now to FIG. 3, a plan view is illustrated of a selected four-foot cross tee and referencing an offset dimension 44 (such as 48” or four feet) between a linear distance taken from center line locations of opposite extending connector clips 46 and 48 of cross tee 18, and an associated linear dimension 50 between lip edge locations associated with the cross tee 18, this dimension again being 47” for a typical four-foot tee. Referencing further FIG. 4, a corresponding plan view of a two-foot cross tee is illustrated at 52 and includes an overall length of 24”, see arrow 54, taken between centerline locations associated with the opposing connector clips, and as compared to a 23” linear distance, see arrow 56 between opposite extending lip edge locations.

[0027] FIG. 5 is an enlarged partial view of an end location of the cross tee of FIG. 3 and further illustrates the offset arrangement between a center line location of the connector clip and the lip edge. In particular, the lip edge is illustrated at 58 relative to selected connector clip 48 and references a one (1”) offset therebetween, see further arrow 60. Referencing further FIG. 6, a partial arrayed view is shown in perspective of intersecting ends of main tee 12 and cross tee 18 and illustrating in particular an offset existing therebetween. In particular, main tee 12 includes a slot 62 through which an inserting portion of the cross tee connector clip 46 inserts.

[0028] An objective of the present invention is to provide a quick and convenient manner for quickly measuring a distance less than a standardized 24” or 48” between parallel extending main tees and wall angles and for facilitating sectioning of a portion of the cross tee 18 to facilitate installation. Reference by example is made to FIG. 3, and which illustrates a reduced dimension 64 (e.g. 40”) between main tee 18 and wall angle 24.

[0029] The present invention accomplishes this objective by emplacing a measurement indicia marking scheme at linear extending intervals along the cross tee 18. As shown in FIGS. 3 and 5, an outermost selected indicia marking 66 establishes a first specified lineal distance with a centerline location of the selected connector clip 48. This marking 66 also establishes a second specified lineal distance with a further selected marking (referenced in progressing fashion at 68, 70, 72, 74 et. seq., in FIG. 3) to determine a sectionable length of the cross tee 18 equaling the dimen-
sional offset (in this example again 40" by arrow reference 64) existing between the main tee and the wall angle.

[0030] In the above manner, the outermost one-inch offset is accommodated and indicia scheme markings, which are established at selected six-inch, three-inch, and/or one-inch intervals, are provided to permit the cross tee to be quickly and visually measured in place between the main tee 18 and wall angle 24, and prior to sectioning with a selected tool for installation (such as by connector clip 46 inserting through main tee slot 62 concurrent with supporting a sectioned end of the cross tee 18 (see again in FIG. 3) upon the projecting ledge 36 of the wall angle 24. The above example applies equally to the sectioning of a desired portion of a 24" (two foot) cross tee 52 as shown in FIG. 4, and by virtue of an offset indicia scheme, see markings 76, 78, 80, et. seq., extending from a first outermost edge of the cross tee and in a direction towards an opposite outermost edge.

[0031] Having described my invention, other and additional preferred embodiments will become apparent to those skilled in the art to which it pertains, and without deviating from the scope of the appended claims:

I claim:

1. A measurement scheme applied to a cross tee member and specifically tailored to account for a dimensional offset existing between the cross tee and a center point of a cross sectional location of a main tee measured to a wall angle, comprising:

   the cross tee having an overall length exhibiting first and second opposite and lip supporting edges, a cross section of the cross tee including a tile support and a web extending in substantially perpendicular fashion from a midpoint of said support;

   first and second connector clips extending from said cross tree approximate said first and second edges, an overall rated length of the cross tee corresponding to a lineal distance measured between center line locations associated with inserting portions of said connector clips; and

   an indicia marking scheme applied at linear extending intervals along the cross tee, an outermost selected indicia marking establishing a first specified lineal distance with a centerline location of a selected one of said connector clips, said marking establishing a second specified lineal distance with a further selected marking to determine a sectionable length of the cross tee equaling the dimensional offset existing between the main tee and the wall angle.

2. The scheme as described in claim 1, the cross tee exhibiting a specified shape and size, an outermost one of said indicia markings measuring one (1") inch from a centerline location associated with said associated connector clip.

3. The scheme as described in claim 2, said indicia markings extending at intervals of at least every three (3") inches from a center point of said rated length and along the cross tee.

4. The scheme as described in claim 2, said indicia markings extending at intervals of at least every (1") inch from a center point of said rated length and along the cross tee.

5. The scheme as described in claim 1, the cross tee having a specified shape and size and with a rated distance of forty eight (48") inches.

6. The scheme as described in claim 1, said cross tee having a specified shape and size, and with a rated distance of twenty-four (24") inches.

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