

Technical Data

Using 12 Gauge Hanger Wire

For most ceiling installations, 12 gauge hanger wire is the preferred method of suspending ceiling components. Typically, the wire is affixed to the existing structure and attached on 4 ft. intervals to main runner components. This method of hanger wire attachment is suitable for most installations, and will permit the main runner components to support a specific amount of weight as indicated by the ASTM C635 rating assigned to the component.

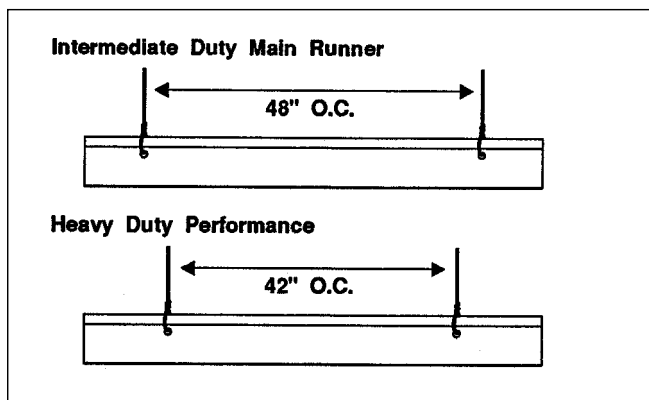
Due to the strength of 12 gauge wire and the superior design of Chicago Metallic components, main runner performance greater than the assigned ASTM C635 rating can be achieved by changing the placement of the hanger wire. In general, main runner components are classified as Light, Intermediate, or Heavy Duty per the requirements of ASTM C635, and will perform accordingly. By changing the placement of the 12 gauge hanger wire that supports the main runner component, one may achieve greater performance, in terms of load-bearing capabilities, than indicated by the component's ASTM C635 rating.

Heavy Duty performance may be achieved from those main runner components possessing an Intermediate Duty rating if the spacing of the supporting 12 gauge hanger wire is reduced from 48" centers to 42" centers. Similarly, Intermediate Duty performance may be achieved from an 830 main runner component, which possesses a Light Duty rating, when the placement of the 12 gauge wire is reduced from 48" centers to 36" centers. It should be noted that when such installation modifications are performed, only the performance capability of the

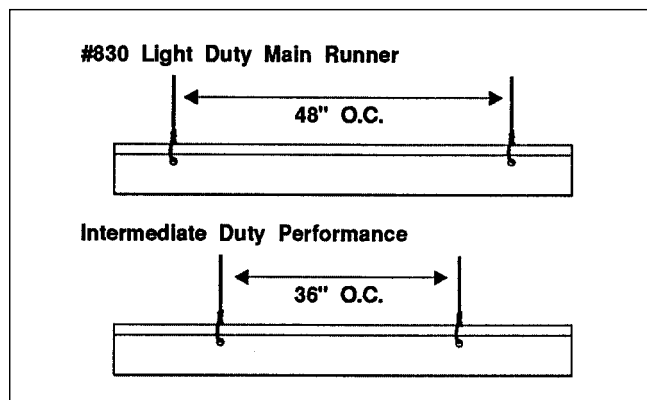
main runner, and not the actual ASTM C635 rating, is increased. Also, these recommendations for increasing the performance capabilities of main runner components apply to Chicago Metallic product only.

Occasionally, project specifications requiring 8, 9, or 10 gauge hanger wire will arise. In these instances, the belief is that heavier gauge wire will increase the load-bearing capabilities or enhance the structural integrity of the ceiling system. Due to the difficulties that often arise during various aspects of the installation process, e.g. wire bending, system leveling, wire tying, etc., when using one of these gauges of wire, 12 gauge wire proves to be a better product choice as the wire will adequately support typical ceiling loads.

To demonstrate, assume a ceiling load of 4 lbs. per square foot. Such a load would require grid components capable of providing ASTM C635 Heavy Duty performance. Further assume that these grid components are supported by 12 gauge wire affixed on 4 ft. centers to the main runner components, which are installed on 4 ft. centers. In such an installation, the ceiling load upon each hanger wire would translate to a force of 64 lbs., as each wire would support the weight of the surrounding 16 square foot area (16 sq. ft. x 4 lbs. per sq. ft. = 64 lbs.). In general, 12 gauge hanger wire has been shown to support at least 5 times this amount of force, based upon published ultimate tensile strength data. Therefore, for typical ceiling installations, 12 gauge wire is a satisfactory choice for ceiling support.



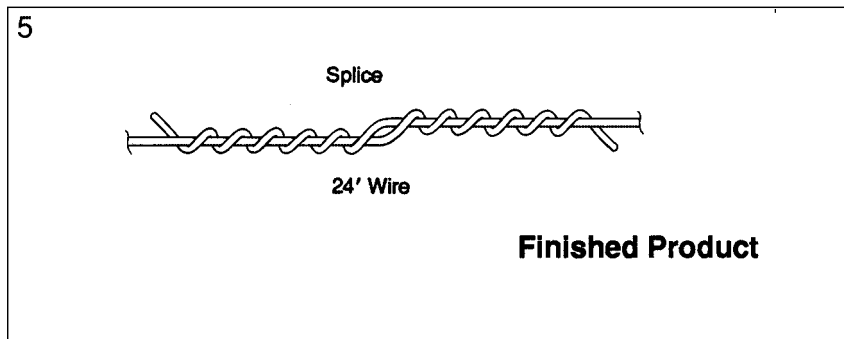
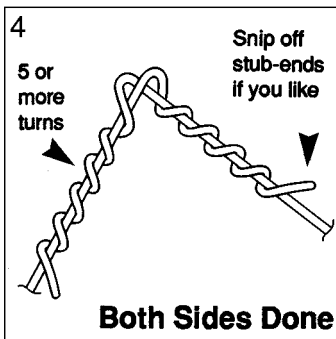
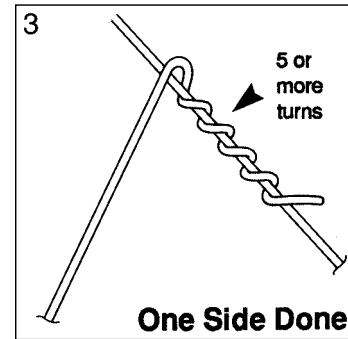
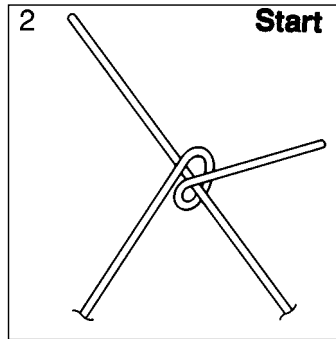
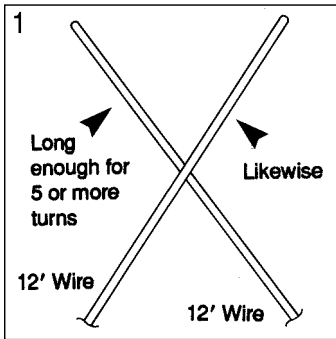
Heavy Duty performance can be achieved from an Intermediate Duty main runner by decreasing the O.C. spacing of the hanger wire from 48" to 42".



Intermediate Duty performance can be achieved from a Light Duty #830 main runner by decreasing the O.C. spacing of the hanger wire from 48" to 36".

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Chicago Metallic offers 12 gauge hanger wire (prod. no. 96) among its extensive product offering. This wire is packaged in 50 lb. bundles of approximately 133 pieces. The wire is 12 ft. in length, which is suitable for most installations. Occasionally, the need for greater lengths may arise, and two or more pieces will have to be spliced together in order to provide the required length. For such situations, the following method may be used to provide a strong splice:



Note that you can always start these turns with your fingers. You may need pliers on stub-ends. Also, if you can pull apart this splice when it has only 5 turns, use more turns.



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