

OVERVIEW

Times Fiber Communications manufactures CATV integral messengered semiflex cables available with several different size messenger wires. The purpose of this technical note is to help select the proper messenger size for the application.

CLEARANCE

The intention of the messenger wire is to support the cable and equipment in aerial applications between utility poles under worse case loading conditions without having to lash the cable to a separate support wire. The cable is usually separated from the messenger and cut so that a tap or other equipment can be installed. Because the

cable is cut, the steel wire must be capable of sustaining the full load. According to the 1997 National Electrical Safety Code (paragraph 261K2), the steel support messenger shall not be stressed beyond 60% of its rated break strength. Vertical clearance requirements are also provided in the 1997 NESC. A typical requirement is 15.5 feet above roads and drive-ways under worse case sag conditions (paragraph 232A). If the minimum clearance above the road is 15.5 feet and assuming that the cable is attached to the utility pole 21 feet above the ground, the sag must not exceed 5.5 feet. The following table shows the maximum span length for heavy loading districts if the above clearance and tension requirements are met.

Cable Size	Messenger Size and Type (inch)	Maximum Span (feet)
500	0.109 solid	150
500	0.134 solid	175
500	(3/16) 0.1875 stranded	225
565	0.109 solid	150
565	0.134 solid	175
565	0.1875 stranded	225
625	0.109 solid	150
625	0.134 solid	175
625	(3/16) 0.1875 stranded	200
750	(3/16) 0.1875 stranded	200
750	(1/4) 0.250 stranded	250
875	(3/16) 0.1875 stranded	175
875	(1/4) 0.250 stranded	225