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CABLE SELECTION CHART

USE OF CABLE SELECTION CHARTS

The following is based upon individual cable thermal limitations and will demonstrate the correct method for detennining circular 1nil requirements for all types of cables displayed in this catalog.

Regardless of the type cable which may be of interest first consult the Conversion Factor Chart with the known factors:

EXAMPLE:

Cycles of current "on time" per weld .6
Number of welds per minute 60
Amperes per weld 16,000
Kickless Cable length ..... 10 Ft.

STEP# 1 Lay one side of a straight edge across the 6 cycles of current "on time" on the left hand vertical scale of the Conversion Factor Chart.

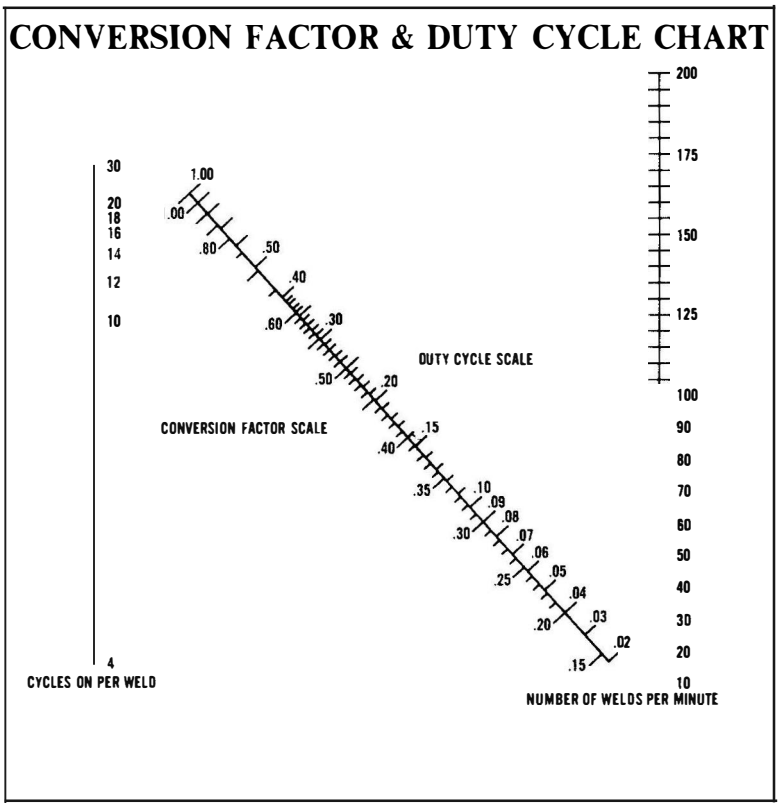
STEP #2 Lay the other side of the straight edge across the 60 welds per minute of the vertical right hand scale.

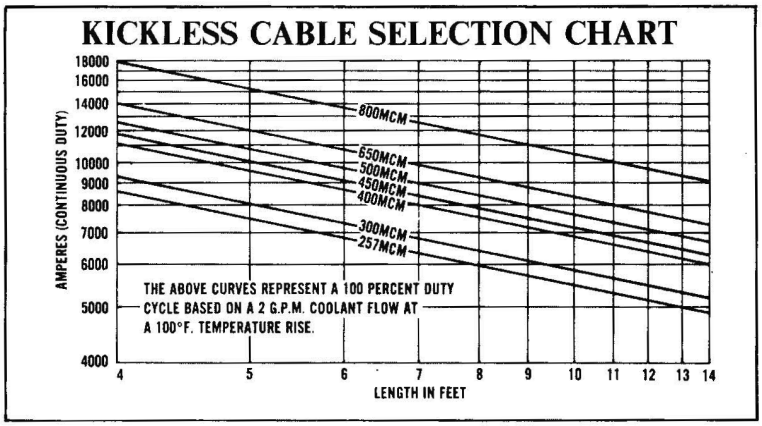
STEP# 3 At the point of intersection with the center slanted scale, a .32 Conversion Factor is indicated by the lower scale. (A duty cycle of .10 or 10% is identified by the lower scale, which in this case is not of interest.)

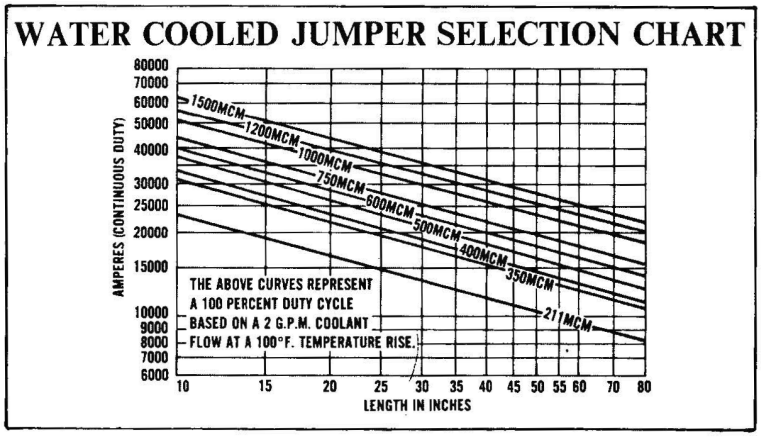
STEP# 4 Multiply the required current of 16,000 amperes by the .32 Conversion Factor which will amount to a "Continuous Duty Current" of 5,120 amperes.

STEP# 5 Proceeding to the Kickless Cable Chart, draw a horizontal line across the chart from the 5,120 ampere point on the vertical left hand scale.

STEP #6 Draw a vertical line from the 10 ft. point on the lower horizontal scale.







USE OF VOLTAGE DROP CHART
FOR KICKLESS CABLES

To calculate the voltage drop across both legs of a dual Conductor Kickless Cable, first determine the known factors.

EXAMPLE

Amperes per weld.....20,000

Cable Length.....8 Ft.

Circular Mil.....400 M.C.M.

STEP# 1: Follow the vertical line "A" from 20,000 ampere point on the lower horizontal scale until it intersects the 8 ft. cable length curve, indicated by the vertical right hand scale.

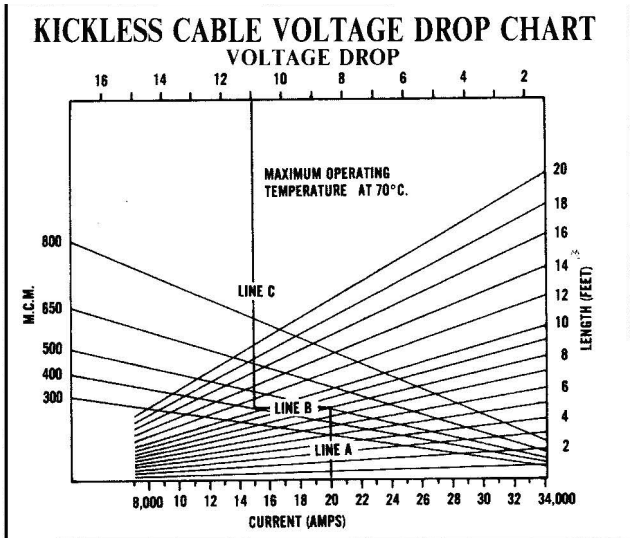
VOLTAGE DROP

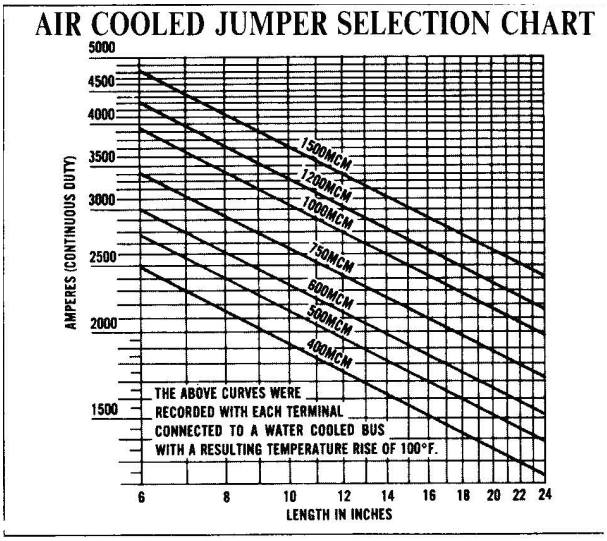
STEP # 2: At the point of intersection, follow the horizontal line "B" to the left until it intersects the 400 M.C.M. cable curve indicated by the vertical left hand scale.

STEP# 3: Follow the vertical line "C" from this point until it intersects the voltage drop scale at the top of the chart, which in this case indicates 10.9 volt drop.

Always locate the known factors on the chart in the following sequence.

1. Current
2. Cable Length
3. Cable Circular Mil
4. Voltage Drop





How to Order Tipaloy Cables

TYPE "K" "KICKLESS" CABLES:

The length is measured from the bolt hole centers at each end of the cable. The following information should be provided:

TYPE	MCM SIZE	LENGTH	TERMINALS 1ST END 2ND END
K	300MCM	72"	F75 FA

TYPE "D" DRY JUMPERS:

The length is measured from the bolt hole centers at each end of the cable on straight or 45 deg. terminals. It is measured from the extreme ends at 90 deg. terminals. On terminals with two holes, measure from the outer holes. The following information should be provided:

TYPE	MCMSIZE	LENGTH	TERMINAL
D	300MCM	72"	DFF

TYPE "W" WATER COOLED CABLES:

The length is measured from the bolt hole centers of each end of the cable on straight or offset terminals. It is measured from the extreme ends of 90 deg. or threaded terminals. On terminals with two holes, measure from the centers of the outer holes. The following information should be provided:

TYPE	MCMSIZE	LENGTH	TERMINAL 1ST END	2ND END
W	300MCM	72"	B6	B9

Refer to Page 51 to order these shunts. Supply a sketch of the same in its normal position and state the amount of movement in each direction, It is also a good policy to supply Tipaloy with either inside or outside lamination to assure proper hole spacing as these are all custom made conductors.