

**Specifications for
Cable Harnesses for the NOvA Experiment
(University of Virginia)**

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Short Cable Harnesses

-Length and Labeling

There are two subtypes for this type of cable harnesses. They have the same length, but different cables labels. Groups of four cables are bundled together (see below for the position of the cable ties).

Length in cm	Cable labels for subtype 1	Cable labels for subtype 2	Bundle
137.0	17	16	Bundle 1
142.0	18	15	
151.0	19	14	
164.3	20	13	
177.6	21	12	Bundle 2
190.9	22	11	
204.2	23	10	
217.5	24	9	
230.8	25	8	Bundle 3
244.1	26	7	
257.4	27	6	
270.7	28	5	
284.0	29	4	Bundle 4
297.3	30	3	
310.6	31	2	
323.9	32	1	
Total: 3603.3			

-Number of cable harnesses

180 cable harnesses with labels of subtype 1

180 cable harnesses with labels of subtype 2

-Positions of cable ties

60cm: small ties around bundles 1, 2, 3, 4, and one big tie around bundles 1, 2, 3, 4

110cm: small ties around bundles 2, 3, 4

160cm: small ties around bundles 3, 4

210cm: small tie around bundle 4

Long Cable Harnesses

-Length and Labeling

There are two subtypes for this type of cable harnesses. They have the same length, but different cables labels. Groups of four cables are bundled together (see below for the position of the cable ties).

Length in cm	Cable labels for subtype 1	Cable labels for subtype 2	Bundle
209.0	49	48	Bundle 1
213.0	50	47	
226.3	51	46	
239.6	52	45	
252.9	53	44	Bundle 2
266.2	54	43	
279.5	55	42	
292.8	56	41	
306.1	57	40	Bundle 3
319.4	58	39	
332.7	59	38	
346.0	60	37	
359.3	61	36	Bundle 4
372.6	62	35	
385.9	63	34	
399.2	64	33	
Total: 4800.5			

-Number of cable harnesses

180 cable harnesses with labels of subtype 1

180 cable harnesses with labels of subtype 2

-Positions of cable ties

60cm: small ties around bundles 1, 2, 3, 4, and one big tie around bundles 1, 2, 3, 4

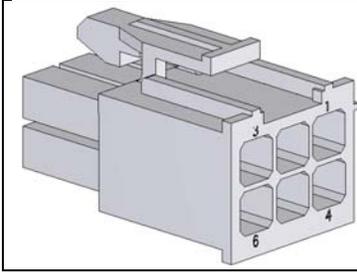
130cm: small ties around bundles 1, 2, 3, 4, and one big tie around bundles 1, 2, 3, 4

180cm: small ties around bundles 2, 3, 4

230cm: small ties around bundles 3, 4

280cm: small tie around bundle 4

Color scheme for pins on both cable ends

	Pin #	Color
	1	Yellow
	2	Brown
	3	Black
	4	Orange
	5	Blue
	6	Red

Required Material for all 720 cable harnesses

-6 conductor cables 18AWG stranded (Belden 27600A):	99300 ft
-6 pin connectors housing MATE-N-LOK (Tyco 172168-1):	23040
-connector sockets MATE-N-LOK (Tyco 1-770988-0):	138240
-heat shrink tubing	
-small cable ties:	8640
-big cable ties:	1080