Fiber optic patch cords

Silica multimode optical fibers

core ϕ	cladding	Buffer	Jacket	N.A.	Fiber-optic code
50	125	250	900	0.22	50/125/900-0.22
62.5	125	250	900	0.27	62.5/125/900-0.27
100	110	125	900	0.22	100/110/900-0.22
100	110	125	900	0.37	100/110/900-0.37
105	125	250	900	0.22	105/125/900-0.22
200	220	240	900	0.22	200/220/900-0.22
200	240	400	900	0.22	200/240/900-0.22
200	220	245	900	0.37	200/220/900-0.37
200	230	500	900	0.39	200/230/900-0.39
200	220	500	900	0.53	200/220/900-0.53
300	330	370	900	0.22	300/330/900-0.22
300	330	650	1000	0.37	300/330/1000-0.37
400	440	480	900	0.22	400/440/900-0.22
400	430	730	1100	0.39	400/430/1100-0.39
400	440	475	900	0.53	400/440/900-0.53

Plastic optical fibers

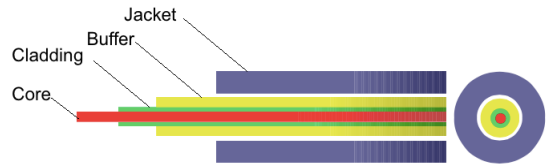
core ϕ	cladding	Buffer	Jacket	N.A.	Fiber-optic code
240	250	-	900	0.63	240/250/900-0.63
480	500	-	900	0.63	480/500/900-0.63
960	1000	-	2000	0.63	980/1000/2000-0.63
1480	1500	3000	-	0.50	1480/1500/3000-0.50

Reference for understanding about structure of optical fiber

Fiber optic patch cords

In the context of optogenetics experiments with the rotary joint, a fiber optic patch cord is needed to connect the light source and the rotary joint and yet another patch cord to connect the rotary joint and the fiber-optic cannula.

Structure of a patch cord



The **core** and the **cladding** are two layers that make up the lightguide. However, the light travels inside the core of the fiber-optic, barely or not inside the cladding. For this reason, interconnected fiber-optics should have the same core diameter. Different cladding diameters have no influence on the coupling efficiency.

The **buffer** is a protective layer that tightly encircles the cladding. For patch cords, we usually recommend the use of another protective layer, called **jacket**, which is a loose tube covering the previously mentioned layers of the cable.