## CLAIMS

**1.** A method for connecting a number of users with at least one signal bearing optical fiber (**110**$_{1\div z}$; **210**$_{1\div 10}$) contained in an optical cable (**105**; **205**), the method comprising the steps of:

a) interrupting said at least one signal bearing optical fiber (**110**$_{1\div z}$; **210**$_{1\div 10}$) at a first branch point (**115**$_{x|1}$; **215p**$_{1\div 5}$), obtaining a first optical fiber segment (**110**$_{x|1}$; **210i**$_{1\div 10}$) of said at least one signal bearing optical fiber (**110**$_{1\div z}$; **210**$_{1\div 10}$) upstream of said first branch point (**115**$_{x|1}$; **215p**$_{1\div 10}$) and a second optical fiber segment (**110**$_{x|2}$; **210**$_{9|1\div 10}$) of said at least one signal bearing optical fiber (**110**$_{1\div z}$; **210**$_{1\div 10}$) downstream of said first branch point (**115**$_{x|1}$; **215p**$_{1\div 10}$);

b) providing an optical splitter (**120**$_{x|1}$; **220**$_{9|1\div 32}$) at the branch point (**115**$_{x|1}$; **215p**$_{1\div 10}$), the optical splitter (**120**$_{x|1}$; **220**$_{9|1\div 32}$) comprising an input and two outputs;

c) coupling the first optical fiber segment (**110**$_{x|1}$; **210i**$_{9}$) with the input of the optical splitter (**120**$_{x|1}$; **220**$_{9|1\div 10}$);

d) coupling a first output of the optical splitter (**120**$_{x|1}$; **220**$_{9|1\div 32}$) with a first user;

e) coupling a second output of the optical splitter (**120**$_{x|1}$; **220**$_{9|1\div 32}$) with a downstream optical fiber segment (**110**$_{x|2}$; **210**$_{9|1\div 8}$) of an interrupted optical fiber (**110**$_{x}$; **210**$_{1\div 8}$) contained in the optical cable (**105**; **205**), in which said downstream optical fiber segment (**210**$_{9|1\div 8}$) of an interrupted optical fiber (**210**$_{1\div 8}$) is an idle optical fiber segment (**210**$_{9|1\div 8}$) of a further interrupted optical fiber (**210**$_{1\div 8}$) and

f) coupling said downstream optical fiber segment (**110**$_{x|2}$; **210**$_{9|1\div 8}$) with at least one further user at a further branch point (**215s**$_{9|1\div 8}$) downstream the first branch point (**115**$_{x|1}$; **215p**$_{1\div 10}$).

**2.** The method according to claim 1, further comprising the step of:

g) coupling the first optical fiber segment (**110**$_{x|1}$; **210i**$_{1\div 10}$) at one end thereof with a network element for propagating one or more optical signals from/to the network element to/from the user and/or the further user.

**3.** The method according to any one of the preceding claims, further comprising the steps of:

h) interrupting the second optical fiber segment (**110**$_{x|2}$) at the further branch point, and

i) providing a further optical splitter at the further branch point, the further optical splitter comprising an input and at least two outputs;

j) coupling the second optical fiber segment (**110**$_{x|2}$) with the input of the further optical splitter provided at the further branch point, and

k) coupling one of the at least two outputs of the further optical splitter with the at least one further user.

**4.** The method of claim 3, further comprising repeating steps f), h), i), j), k) in correspondence of at least one subsequent branch point downstream said further branch point.

**5.** The method according to any one of the preceding claims, wherein the step d) of coupling a first output of the optical splitter (**220**$_{9|1\div32}$) with a first user comprises:

- coupling the first output of the optical splitter (**220**$_{9|1\div32}$) with a further idle optical fiber segment of an another further optical fiber contained in the optical cable (**205**).

**6.** The method according to any one of the preceding claims, wherein the step e) of coupling a second output of the optical splitter (**220**$_{9|1\div32}$) with a downstream optical fiber segment (**210**$_{9|1\div8}$) of an interrupted optical fiber (**210**$_{1\div8}$) contained in the optical cable (**205**) comprises:

- segregating the downstream optical fiber segment (**210**$_{9|1\div8}$) at the further branch point (**215s**$_{9|1\div8}$), obtaining the idle optical fiber segment (**210**$_{9|1\div8}$) upstream the further branch point (**215s**$_{9|1\div8}$).

**7.** The method according to any one of the preceding claims, wherein the at least one signal bearing optical fiber (**210**$_{1\div10}$) comprises a plurality of signal bearing optical fiber (**210**$_{1\div10}$) grouped in optical fiber modules (**210**$_{1\div10}$) and wherein:

the step a) of interrupting said signal bearing optical fiber (**210**$_{1\div10}$) at a first branch point (**215p**$_{1\div5}$), obtaining a first optical fiber segment (**210i**$_{1\div10}$) upstream of said branch point (**215p**$_{1\div10}$) and a second optical fiber segment (**210**$_{9|1\div10}$) downstream of said branch point (**215p**$_{1\div10}$) comprises:

- segregating all the optical fibers of a same optical fiber modules (**210**$_{1\div10}$) at the same branch point (**215p**$_{1\div10}$), and wherein

the steps b) and c) of providing an optical splitter (**220**$_{9|1\div32}$) at the branch point (**215p**$_{1\div10}$) and coupling the first optical fiber segment (**210i**$_{9}$) with the input of the optical splitter (**220**$_{9|1\div32}$) comprises providing a respective optical splitter (**220**$_{9|1\div32}$) for each optical fiber of the same optical fiber module, and coupling the first optical fiber segment of each optical fiber of the same module with the input of the respective optical splitter.

**8.** The method according to claim 7, wherein the downstream optical fiber segment (**210**$_{9|1\div8}$) of an interrupted optical fiber (**210**$_{1\div8}$) comprises a plurality of downstream optical fiber segments grouped in idle optical fiber modules (**210**$_{9|1\div8}$) contained in the optical cable (**205**), wherein the further branch point (**215s**$_{9|1\div8}$) comprises a respective further branch point (**215s**$_{9|1\div8}$) for each one

of the idle optical fiber modules (**$210_{9|1\div8}$**), and wherein the step f) of coupling said downstream optical fiber segment (**$210_{9|1\div8}$**) with at least one further user at a further branch point (**$215s_{9|1\div8}$**) downstream the first branch point (**$215p_{1\div10}$**) comprises:

- coupling each of said downstream optical fiber segments grouped in idle optical fiber modules (**$210_{9|1\div8}$**) with at least one further user at the respective further branch point (**$215s_{9|1\div8}$**) of the idle optical fiber modules (**$210_{9|1\div8}$**) downstream the first branch point (**$215p_{1\div10}$**).