CLAIMS

1. A device for processing a filament in a process stream, the device comprising as components

   a) at least one processing beam source, designed and arranged for emitting at least one processing beam which is suitable for processing a segment of the filament by interaction of the at least one processing beam with the segment of the filament, thereby obtaining a processed filament; and

   b) a guiding means, comprising a filament feed which is

      i) arranged upstream of the at least one processing beam source, and

      ii) designed to feed the filament from a feed reel;

   wherein the guiding means is designed and arranged to guide the filament so that during the processing the segment of the filament inclines an angle with a vertical axis in the range from 0 to 45°;

   ~~———~~wherein the device ~~comprises the filament;~~

   ~~wherein the segment~~is designed for a reel-to-reel-processing of the filament ~~inclines the angle with the vertical axis;~~

   ~~wherein the filament is one selected from the group consisting of a wire, a cable, and an optical fibre, or a combination of at least two thereof~~.

2. The device according to claim 1, wherein the guiding means further comprises a filament take-up means which is arranged down-stream of the at least one processing beam source.

3. The device according to claim 2, wherein the filament take-up means is designed for the processed filament to be rolled up on a take-up reel.

4. The device according to any of the preceding claims, wherein the device further comprises at least one additional processing beam source, which designed and arranged for emitting at least one additional processing beam which is suitable for processing the

segment of the filament by interaction of the at least one additional processing beam with the segment of the filament,

wherein the device is designed for processing the segment of the filament

A. by interaction of the at least one processing beam with a first circumferential section the segment of the filament, and

B. by interaction of the at least one additional processing beam with a at least one further circumferential section the segment of the filament.

5. The device according to any of the preceding claims, wherein the at least one processing beam source is at least one laser and the at least one processing beam is at least one laser beam.

6. The device according to any of the preceding claims, wherein the filament is one selected from the group consisting of a wire, a cable, and a fibre, or a combination of at least two thereof.

~~6.~~7. The device according to any of the preceding claims, wherein the filament comprises a core and at least a first layer which superimposes the core,

wherein the core consists of a core material,

wherein the first layer consists of a first layer material,

wherein the first layer material is different from the core material.

~~7.~~8. The device according to claim ~~6~~7, wherein the filament further comprises a further layer which is disposed between the core and the first layer,

wherein the further layer consists of a further layer material,

wherein the further layer material is different from the first layer material and from the core material.

9. The device according to any of the preceding claims, wherein the device comprises the filament,

wherein the segment of the filament inclines the angle with the vertical axis.

~~8.~~10. The device according to any of the preceding claims, wherein the device comprises the feed reel, wherein, preferably, a first part of the filament is rolled up on the feed reel.

~~9.~~11. The device according to claim 3, wherein the device comprises the take-up reel, wherein, preferably, a further part of the filament is rolled up on the take-up reel.

~~10.~~12. A process for preparing a processed filament, the process comprising as steps

a) provision of a filament, comprising a segment which is rolled up on a feed reel~~, wherein the filament is one selected from the group consisting of a wire, a cable, and an optical fibre, or a combination of at least two thereof;~~;

b) feeding the segment from the feed reel; and

c) processing the segment by interaction of the segment with at least one processing beam, thereby obtaining the processed filament;

wherein, in the step c), the segment inclines an angle with a vertical axis in the range from 0 to 45~~°.~~°;

wherein the process is performed as a reel-to-reel-process.

~~11.~~13. The process according to claim ~~10~~12, wherein the process further comprises a step

d) rolling up the segment of the processed filament on a take-up reel.

~~12.~~14. A use of at least one laser for processing a segment of a filament in a reel-to-reel process by interaction of the segment with at least one laser beam from the at least one laser while the segment inclines an angle in the range from 0 to 45° with a vertical axis~~; wherein the filament is one selected from the group consisting of a wire, a cable, and an optical fibre, or a combination of at least two thereof.~~ .