

Process for preparing a processed filament by interaction of a filament with at least one
processing beam in N processing steps

Abstract

The invention refers to a process (100) for preparing a processed filament (410), the process
5 (100) comprising as process steps

- a) providing a filament (201), which comprises a multitude of segments (204), which
follow one another in a longitudinal direction (401) of the filament (201), wherein
each of the segments (204) of the multitude of segments (204) comprises a multi-
tude of sections (202, 203), which are disposed circumferentially around the fila-
10 ment (201); and
- b) processing the filament (201) in n processing steps 103, 104, 701, 702), thereby ob-
taining the processed filament (410);

wherein for each integer i in the range from 1 to n, the i^{th} processing step comprises, for each
integer j in the range from 1 to m, processing the j^{th} section of the $(i+j-1)^{\text{th}}$ segment; wherein n
15 and m are integers which are, independent from one another, at least 2; wherein sections (202,
203) of different number are at different circumferential locations of the filament (201); where-
in the processing of each section (202, 203) of each segment (204) of the filament (201) com-
prises an interaction of the section (202, 203) of the segment (204) of the filament (201) with
at least one processing beam (301). Further, the invention refers to a processed filament (410),
20 obtainable by the process (100); to an electrical device (1600), comprising at least a part of the
processed filament (410); to devices (1400) for preparing a processed filament (410); to a use
of at least one laser; and to a use of a filament (201) for being processed.

(Fig. 4a)