



TECHNOLOGY FOR PREPARATION OF OPTICAL FIBER WAVEGUIDES FROM POLYDIMETHYLSILOXANE (PDSM)

TECHNOLOGY DEVELOPED AT THE FACULTY OF ELECTRICAL ENGINEERING OF THE UNIVERSITY OF ŽILINA

NOVEL TECHNOLOGY OF PDSM PROCESSING

BACKGROUND INFORMATION

- Unique method of preparation of optical fiber waveguides
- The method based on pulling the fibers from polydimethylsiloxane
- Partially cured polydimethylsiloxane is placed between the fibers that are subsequently moved apart
- Defined speed of the process allows forming the optical fiber waveguides of required parameters

APPLICATIONS

PDSM'S TRAITS APPLICABLE IN SEVERAL COMMERCIAL INDUSTRIES

- Invention applicable in the field of photonics, especially the fiber optics
- Optical waveguides prepared by the method predominately used as optical components in electronics and sensors
- Wide-range of applications within the telecommunication, electronics and sensor industry

COMPETITIVE TECHNOLOGY

THE METHOD ALLOWING WIDE RANGE OF WAVEGUIDE PARAMETERS

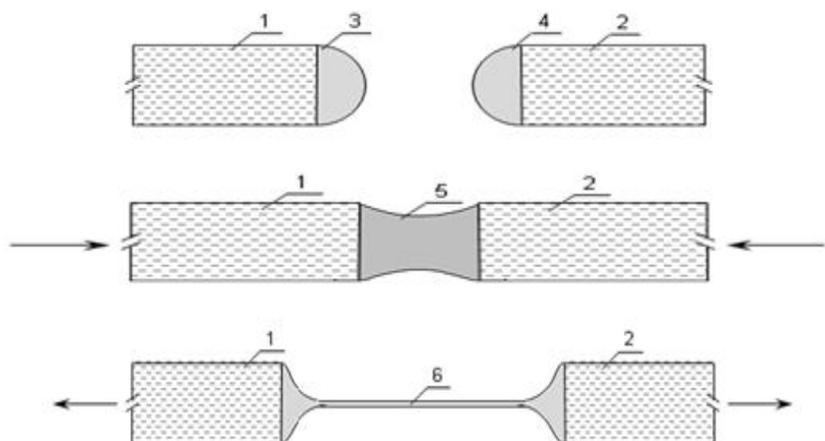
- Designed for short-length waveguides
- Waveguide thickness of up to 1 micrometer
- Forming the waveguides to various shapes possible without any damages
- Method allows the full customization of waveguides parameters
- Easy adaptation to current production lines requiring minimum adjustments

TECHNOLOGY

1.METHOD BASED ON PULLING THE FIBERS

2.PARTIALLY CURED PDSM PLACED BETWEEN THE FIBERS

3.FIBERS MOVING APART

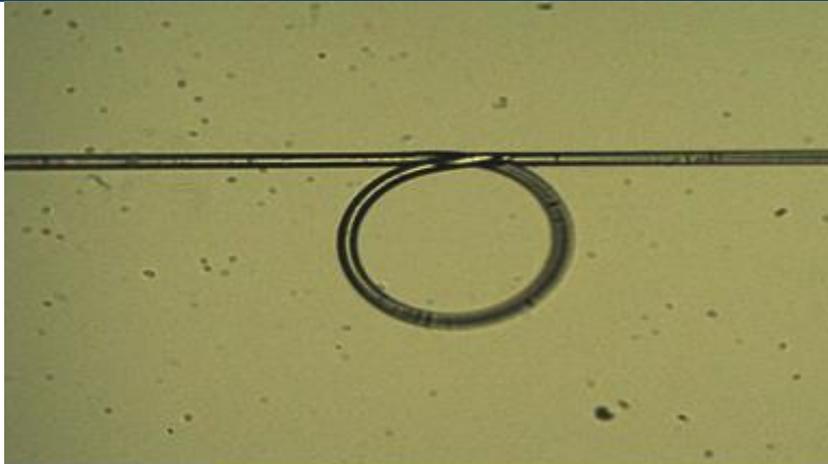


PREPARATION OF OPTICAL FIBER WAVEGUIDES WITH DIAMETER OF UP TO ONE MICROMETER

STAGE OF DEVELOPMENT

TECHNOLOGY READY FOR LICENSING OR SALE

- PCT patent application PCT/SK2013/000012 filed in 2013
- Method already tested with samples ready for display
- Article in current journal published



INTERNATIONALLY RECOGNISED INVENTORS

TECHNOLOGY DEVELOPED BY A TEAM OF SCIENTISTS AT UNIVERSITY OF ŽILINA

- Inventors Pudiš Dušan, doc. Ing., PhD. and Martinček Ivan, doc. Mgr., PhD.
- Research team from the Faculty of Physics at the University of Žilina
- Experts in the field of optics and photonics with combined experience of more than 25 years
- Collaboration on research projects in Europe

THE INVENTORS ARE LOOKING FOR AN INDUSTRIAL PARTNER TO SELL OR LICENSE THE GAS SENSOR TECHNOLOGY

FOR MORE INFORMATION PLEASE CONTACT
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The inventors use services of Neulogy, a Bratislava-based consultancy, to market their invention.

