Material-efficient stripwound metal hose

Innovative shape of cross section for stripwound metal hoses provides better materials utilization.

Status quo
Flexible tubes or pipes made of sheet metal profiles are used in pipeline construction, in exhaust systems or as protecting shell. The so-called agraff hose as the most prominent type is used in shower hoses. Disadvantageous to its basic shape is a doubling of the profile cross-section in places, which results in high materials usage.

Our technology: New cross-section for a flexible metal hose
Present limitations with regard to material and stability issues can be eliminated by a new profile cross-section, which allows the customary longitudinal expansion and compression as well as the curvature in radial direction. Furthermore, a material reduction of the engaging construction elements can be realized.

Benefits
- Material savings due to lower wall thicknesses and a reduced number of wall elements.
- Cost-effective production through the use of sheet metal blanks and identical construction of essential construction elements.
- Improved guiding and sliding properties to avoid leaking or dissolved structure sections.

Current stage of development
Technology-Readiness-Level (TRL): Level 2.
Various variants are designed. The construction of a prototype is planned.

Application possibilities
Flexible pipes for pipeline construction, in exhaust systems or as a protective cover.

Intellectual property situation
The presented technology is protected by intellectual property rights.

Commercialization opportunities
We are looking for industry partners who are interested in using the technology. If there is any need for further development, a close cooperation between the industry partner and TU Darmstadt is possible.

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