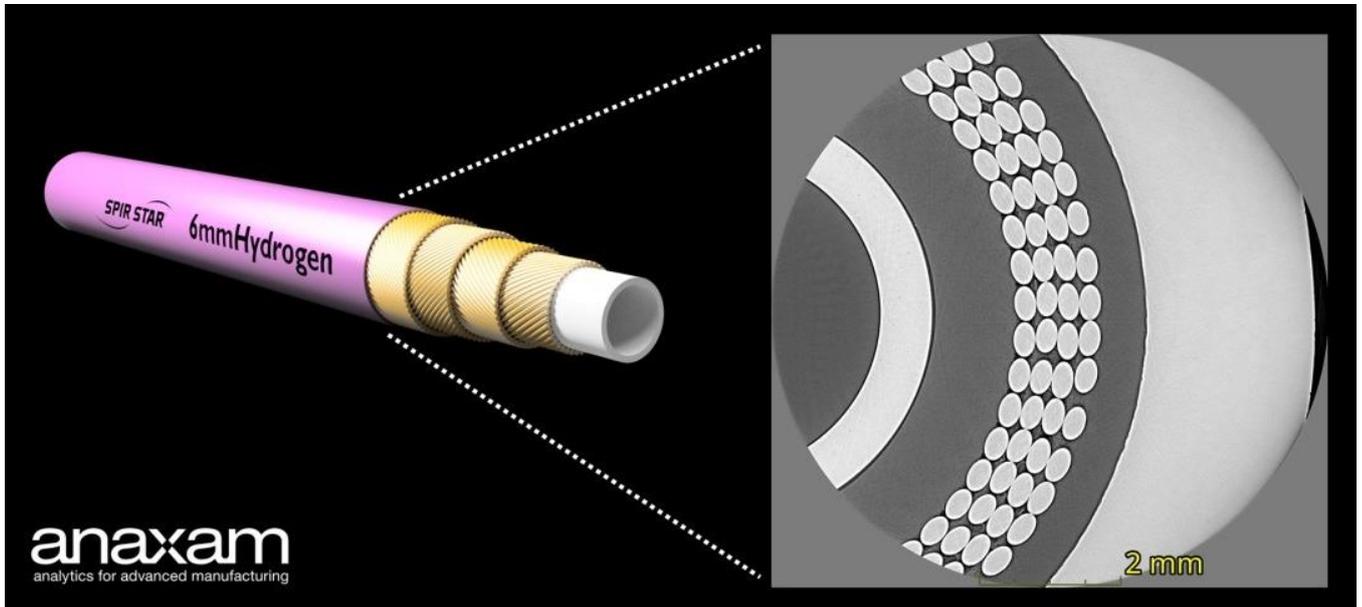




## Investigation of hydrogen hose structure using high-resolution Synchrotron CT

SPIR STAR® AG is a leading international manufacturer of ultra-high-pressure thermoplastic hoses with spiralized steel wire reinforcements for pressure ranges from 250 to 4,000 bar. As a competent and reliable partner in the ultra-high-pressure range, the product portfolio has also been expanded to include high-pressure valves, adapters, tubing, and couplings. Thanks to its high-quality products combined with excellent customer service, SPIR STAR® is an established player in the waterjet, hydrogen, hydraulic, oil & gas and automotive industry segments.

In order to preserve our environment and to promote renewable energy, SPIR STAR® has been an early advocate of hydrogen product solutions. Thus, the hose type «6mmHydrogen» is used for refueling cars as a dispenser hose used as connection between nozzle and breakaway in H70 application. In addition, SPIR STAR® also offers larger ID hoses for higher flowrates, used for H2 trailers supply and for hydrogen refueling in heavy duty applications e.g., truck and trains.



The [applied material analytics](#) of ANAXAM using [high-resolution Synchrotron CT](#) helps SPIR STAR® to analyze the internal structure of hydrogen hoses in three dimensions. Tomographic imaging has the potential to

visualize the interface between stainless steel and polymeric materials, which are forming the hose. Such investigation can lead to improve the hose assembly design.

**“** The project supports our development processes. The synchrotron CT shows us the hose design in total in a nondestructive way. The knowledge gained contributes to the constant further development of our hydrogen product line.”

Tobias Schmiedl, Project Engineer Product Development | Hydrogen,  
– SPIR STAR® AG

<https://www.anaxam.ch/>