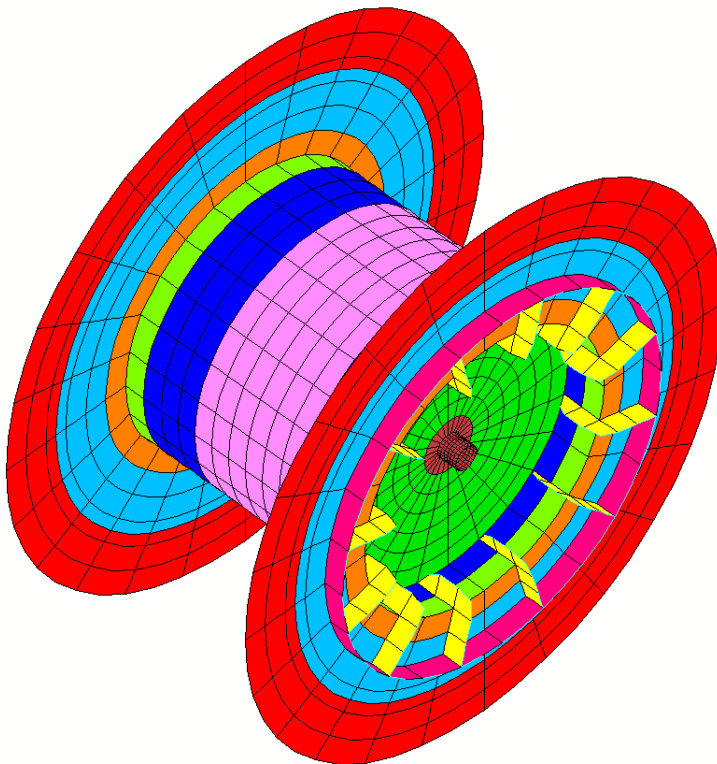


Structural design, analysis and testing of GRP Streamer winch

Streamer winch for launching and retrieval of streamer cables on geotechnical vessels.

Client: Baro Mekaniske Verksted AS

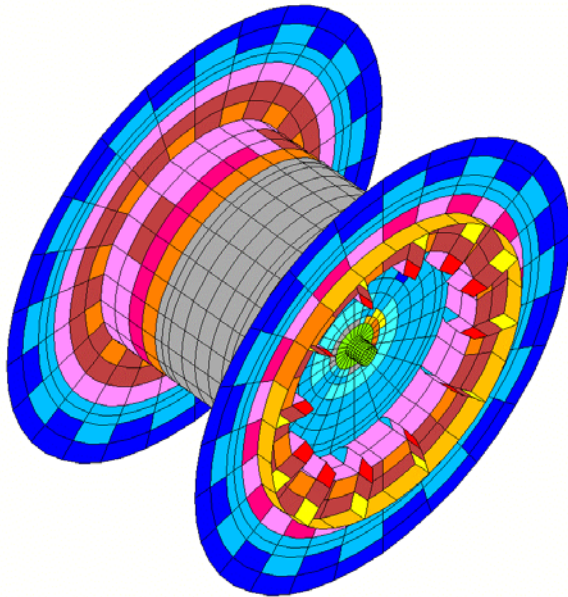
- Establish design criteria
- Establish design loads, based on interaction between streamer cable and GRP structure - non linear load calculation
- Design calculations and FE-analysis
- GRP material evaluation and development of production method
- Testing and verification of structure
- Strain measurements on cable drum
- Calculations and FE-analysis of test performance
- Verification of design parameters and loads during test program, incl. strain gauge measurements
- Analysis and evaluation of test results



FEM model of streamer winch with different material lay up (colour codes)

Offshore

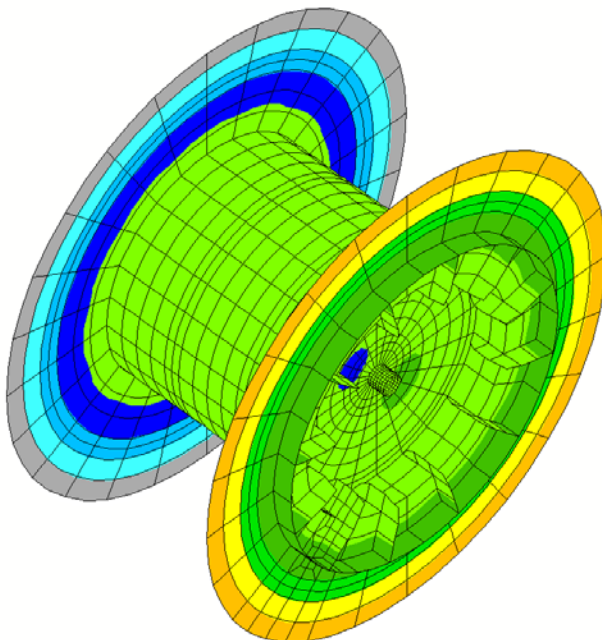
DISPLAY III - GEOMETRY MODELING SYSTEM (7.0.0) PRE/POST MODULE



EMRC FPF 1,5 times design load
Streamer Baro Mek. Verksted FPF Analysis

Composite utilisation of allowed stress and strain levels according to Tsai Wu failure criteria

DISPLAY III - GEOMETRY MODELING SYSTEM (7.0.0) PRE/POST MODULE



EMRC Spolekraft 10000 N + oppvarming
Test av Baro kompositt streamervinsj

Deformation plot - sidewalls of the drum (due to temperature expansion of streamer cable)

Offshore



GRP Streamer winch under testing, placed in heat chamber at Baro Mek Verksted