

NORDIC FSW GROUP – COMPILATION OF QUESTIONNAIRE

3. Language

54% in favour of English only

42% in favour of mix between Swedish/Danish/Norwegian and English.

4 % in favour of Swedish/Danish/Norwegian

4. Grading of activities fields (in order of average)

• Weld quality	2,80	• Joint design	2,17
• R&D	2,50	• Productivity	2,14
• Technical Visits	2,43	• Weld economy	2,14
• Test methods	2,43	• Qualification	2,00
• Materials	2,38	• Standards	1,89
• Tool design	2,27	• Spot welding	1,50
• Reports	2,25		

Others activities/fields: "Joining steel with high strength"

5. Surveillance fields

- Joining steel
- FSW on thin material (thickness 0,8 – 2 mm)
- Gas industry
- Automotive industry (2)
- Off shore
- Rail
- Aerospace
- Scandinavia
- Standards
- New findings from conferences, publications etc
- Industrial applications of FSW
- FSW in medium size mechanical industry
- TWI, DVS, IS
- ISO-committees
- EuroStir
- FSW in titanium alloys
- Any prominent site is interesting. Especially SKB och Sapa

6. Requested topics for short reports

- Implementing FSW in already existing workshop
- Future opportunities for FSW
- Technical capabilities
- Equipment size
- Thickness capability
- Tool technology
- 1,2,3 – 5 axis
- What participants are doing and can do, goals, interests
- Current applications
- Qualifications and approvals

- Description of each participant and their field/applications in FSW
- Joining of different metals in new and old constructions
- Ongoing and upcoming R&D-efforts
- Production issues
- Tools
- NDT
- Application examples
- What kind of "in-house" standards for weld quality are currently used by the participants
- Resent application of FSW
- My interest lies mainly in FSW of copper, but other developments are also interesting

7. Topics on which the participants are prepared to give short reports

- FSW of 2,7 mm thick PH sheet material
- Presentation of DanStir, capabilities and areas of commercial business
- FSW research at KTH
- FSW applications, imperfections and test methods
- FSW of SS and Cu/Al
- Ongoing R&D to seal 5 cm copper containers
- Applications
- Weld performance of FSW
- FSW of Copper and of dissimilar Cu-Al Joints

8. Meeting frequency

Average 1,5 meetings/year

9. Principal objective/goal for the group

- Share info on FSW; how to implement it and how to train personnel
- To promote FSW business in the Nordic countries
- To ignite and sustain fruitfull co-operations
- Making projects
- Assisting each other
- To develop FSW and make it more available
- Get ideas from each other and solve problems
- To cover/comment on standardisation
- Exchange experience
- Plan and start research projects
- Publish guides etc and educational information
- Excursions to FSW producers
- Knowledge exchange
- Possible joint R&D-efforts
- Advincement of the FSW-process and applications
- To gain maximum leverage from science base to maintain Scandinavian leading position
- Networking and increased knowledge of the FSW-technique
- To get to know what others are doing, possibly find some synergy benefits. Joint research, personal connections

10. Other issues

- Life time of FSW tools
- Modeling of FSW processes and its realistic and practical application
- NDT of FSW welds
- Fatigue