

## Minutes kick off meeting at University of Paderborn (Germany), 19 July 2007

### Participants:

#### Salzgitter Mannesmann Forschung GmbH:

Mr. Fluegge: W.Fluegge@sz.szmf.de, Mr. Orth: t.orth@du.szmf.de,  
Mr. Zimmermann: S.Zimmermann@du.szmf.de

#### Gaz de France:

Mr. Billet: pierre.billet@gazdefrance.com

#### Sika Danmark A/S:

Mr. Burchardt: burchardt.bernd@ch.sika.com

#### Centro Sviluppo Materiali S.p.A.:

Mr. Bufalini: a.bufalini@c-s-m.it

#### Mannesmann Fuchs Rohr GmbH:

Mr. Brauer: Holger.Brauer@mannesmann-fuchs.com

#### Arbeitsgemeinschaft für Wärme & Heizkraftwirtschaft – AGFW – e. V.:

Mr. Besier: r.besier@agfw.de

#### University of Paderborn, Coordinator:

Mr. Wissling: Matthias.wissling@lwf.upb.de

### Introduction:

Project meeting started with an introduction given by Mr. Wissling about the structure of the project and the main project objectives:

- Development of an efficient, integrated and easy-to-use technique for adhesive bonding of steel pipes based on an interdisciplinary collaboration between leading research institutes, adhesive industry and pipe industry including end users, and
- Development of guidelines, design calculation methods and non-destructive testing methods including a repair concept for adhesively bonded steel pipes

Afterwards, the project team discussed the course of action. The main results are summarized below:

### Main results:

The focus is on both pipes for gas and water distribution.

Two type geometries will be examined: "Large" pipes with diameter  $d = 508$  mm and wall thickness  $t = 8,0$  mm as well as "small" pipes with  $d = 168,3$  mm and  $t = 4,0$  mm (geometry can vary slightly due to short-term availability from Mannesmann Fuchs Rohr).

The joining process has to be an easy-to-use bonding process capable to adjust tolerances and imperfections.

Pipe tolerances are 4 % (up to 2,5 mm regarding the pipe geometries which will be used in the project). This has to be taken into account regarding the choice of adhesive material.

The operation pressure for the pipes which are in the focus of the project is up to 16 bars.

Two component adhesive systems (Polyurethane) will be used for the project.



**To do list:**

**First steps** (working points in green are already done, red means not yet done):

Mr. Brauer provides the project team with information about the pipe coating, proposed pipes to be used within the project and the short-term availability of the proposed pipes.

Mr. Billet will check the pipe diameter which is most representative for distribution networks. Furthermore, Mr. Billet will provide the project team with an overview about actual costs for welding.

Mr. Besier will send information regarding actual long term requirements, pipe quality, coating, pressure and temperature inside the pipe, external forces.

Mr. Zimmermann will check the forces which occur during the construction process.

**Based on the first steps:**

Mr. Burchardt and Mr. Wissling will develop a pipe joint geometry. This work requires the information about the forces acting on the point joint during the construction phase and regarding the long term use.

Together with the joint geometry Mr. Burchardt will choose an adhesive bonding material.

First results regarding the development of suitable quality control system will be done by Mr. Orth until end of November 2007.

Mr. Wissling will launch an internet platform for collecting reports and related information (please find [www.jointec2007.de](http://www.jointec2007.de), first version online: 21 August 2007).

**Next meeting:**

At AGFW in Frankfurt (Germany) on 3 December 200

Paderborn, 12 August 2007

Matthias Wissling

