



don't crack under pressure

Ensuring the highest quality in PE 100 pressure piping materials: The PE100+ Association

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Introduction

- PE is a well-established pipe material in gas and water transport
- Today, PE 100 is the standard material for highly demanding applications
- The plastics industry in PE and PE 100 could largely benefit from a common market place, i.e. an Association of producers with common marketing and quality objectives

Objectives of the PE100+ Association

Created on the 24th of February, 1999

“The objective of the Association is to establish a quality label for PE100+ products and to promote the use and the safety of PE 100 products generally and of PE100+ products in particular.

In addition, the Association will engage in appropriate public relations activities, present itself as an industry group and increase its influence both within and outside of Europe”

How is the Association organised?

- Association members, i.e. raw material producers, meet once a year in a member meeting and elect a board, responsible for day-to-day work in the Association
- A technical committee supports the Association where testing is concerned
- Guidance is sought from the market through the Advisory Committee

Ahead of standardisation

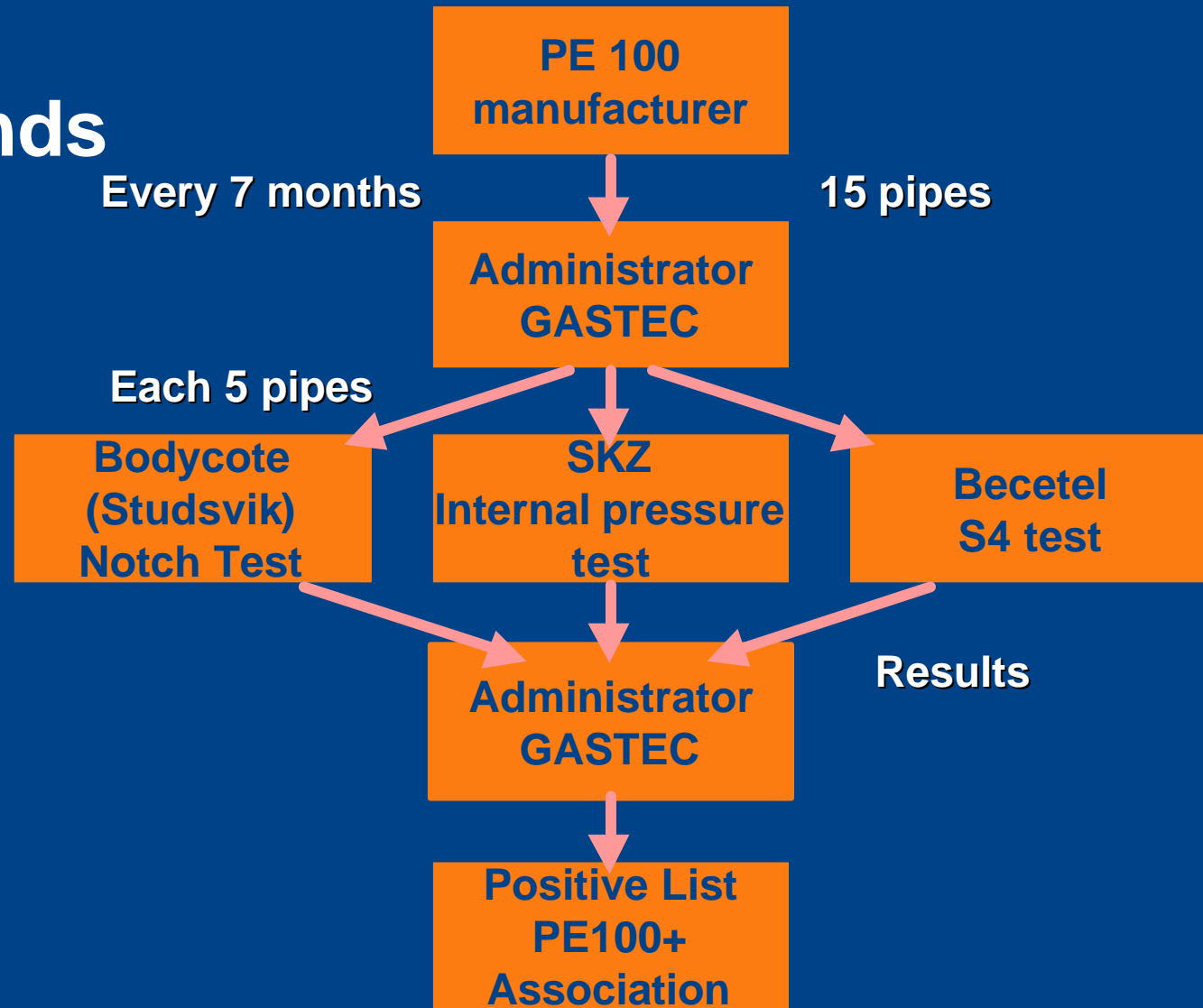
- On a technical level, the Association has the objective to be at the forefront
- On ISO level, norms exist for water and gas pipes in PE. On CEN level, they hopefully exist in near future
- The Association therefore wants
 - to set requirements for good PE 100 materials
 - to install a neutral quality control scheme

Technical requirements

Property	Test Method	EN/ISO Standard requirement	PE 100+ requirement
Creep Rupture Strength	Internal pressure test at 20°C and 12.4 MPa ISO 1167	> 100 h	> 200 h
Stress Crack Resistance	Pipe notch test at 80°C and 9.2 bar ISO 13479	> 165 h	> 500 h
Resistance to Rapid Crack Propagation	S4 test at 0°C ISO 13477	$P_c > MOP/2,4 - 13/18$ P _c : critical pressure MOP: max. operat. pressure	> 10 bar

All tests are performed on 110 mm SDR 11 pipes

Test rounds



Positive list of materials

Product	Manufacturer
Finathene® XS10 H (blue)	ATOFINA
Finathene® XS10 B (black)	ATOFINA
Hostalen® CRP 100 black	Basell Polyolefine GmbH
Hostalen® CRP 100 blue	Basell Polyolefine GmbH
Hostalen® CRP 100 orange/yellow	Basell Polyolefine GmbH
Borstar® HE3490-LS (black)	Borealis AB
Vestolen® A 6060 R (black)	DSM Polyolefine GmbH
Eltex® TUB 121 (black)	Solvay Polyolefins Europe
Eltex® TUB 125 N2025 (orange)	Solvay Polyolefins Europe
Eltex® TUB 124 N2025 (blue)	Solvay Polyolefins Europe

List valid until October 2001

As a result of the testing rounds, this positive list is regularly updated

Not only organising tests

- The objective of the Association goes far beyond quality insurance and testing
- Marketing issues are dealt with from a common market place
 - PE100 website
 - Seminar rounds
- The Advisory Committee provides feedback from the market

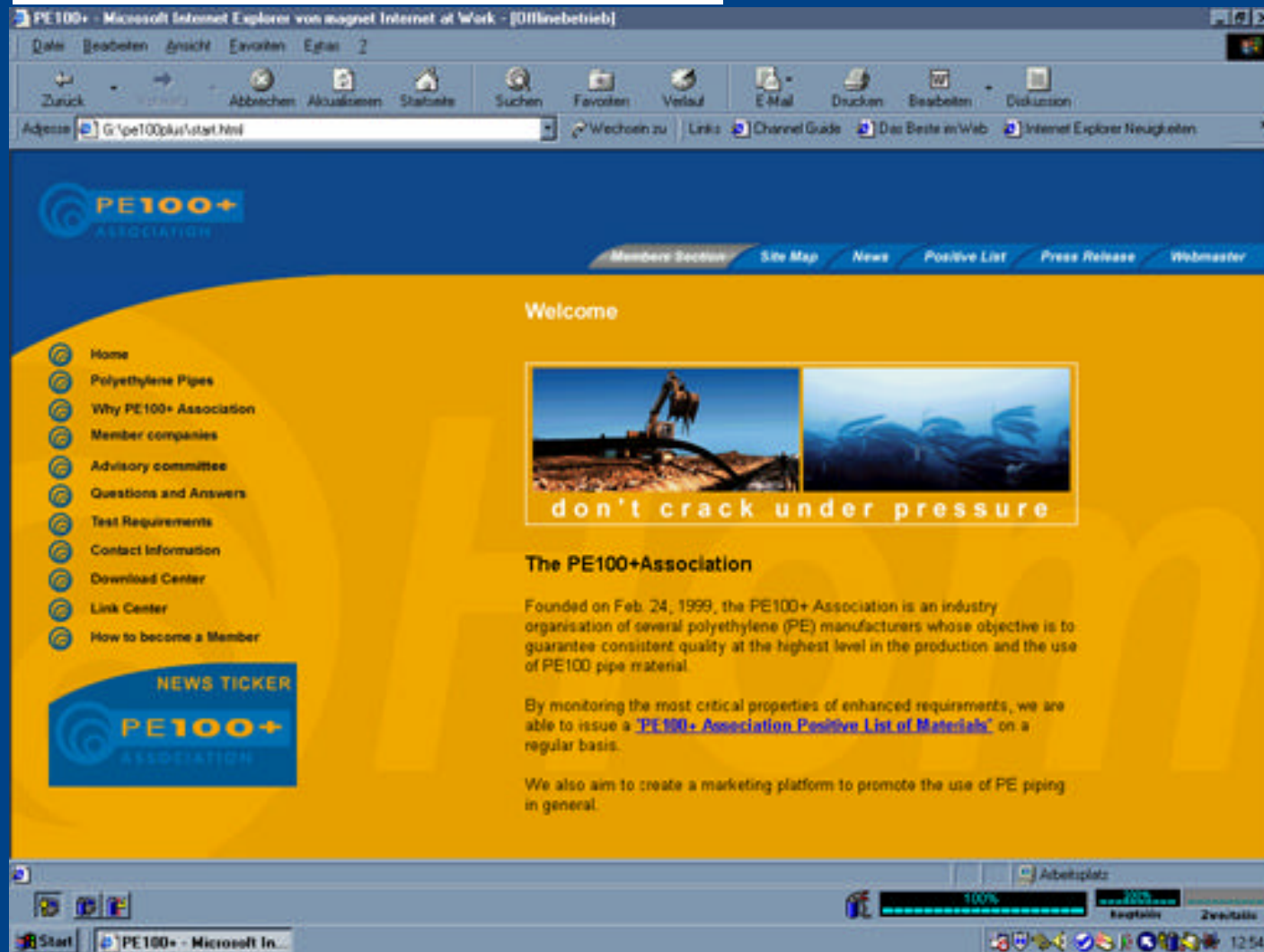
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The internet site is one tool to re-position the PE100+ Association as the marketing platform for PE piping in general by:

- Regular News
- Comprehensive download centre
- Q&A section
- Web link centre



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Seminar rounds

- The target of those seminars is:
 - to show the outstanding performance of the piping material Polyethylene 100 (PE 100)
 - to ensure all the participants about the safety transport possibilities of drinking water, natural gas and industrial fluids using pipelines made of PE
- Speakers from the industry provide background information by using case stories to demonstrate the successful use of PE 100 piping materials
- These seminar rounds are performed locally, by adopting the country requirements and using the local language

Recently: Spain

- “PE100+: De tour por Espana” Together with AseTUB, the association of Spanish pipe & fitting producers, the PE100+ Association organised a seminar cycle in four locations.



Previous and forthcoming seminars

1997 - 2000 Germany*)
Switzerland*)

*) Seminars were organised by
International Ingenieurberatung GmbH,
Dipl. Ing. Heiner Brömstrup, Wiesbaden

2000 Poland
France Paris, Lyon,
Nantes
2001 Spain Seville, Madrid,
Bilbao, Barcelona

about 190 participants

about 200 participants

2001 Italy**)
next USA
Turkey

**) performed later this year



Advisory Committee

- The Advisory Committee will consist of individuals not affiliated with any Member who will be experts in the field of pressure pipes and fittings for use in gas and water supply systems, sewage disposal and industrial and mining applications.
- The Advisory Committee shall provide non-binding advice to the Association on matters relating to the use and marketing of PE100+ products.

Advisory committee meetings

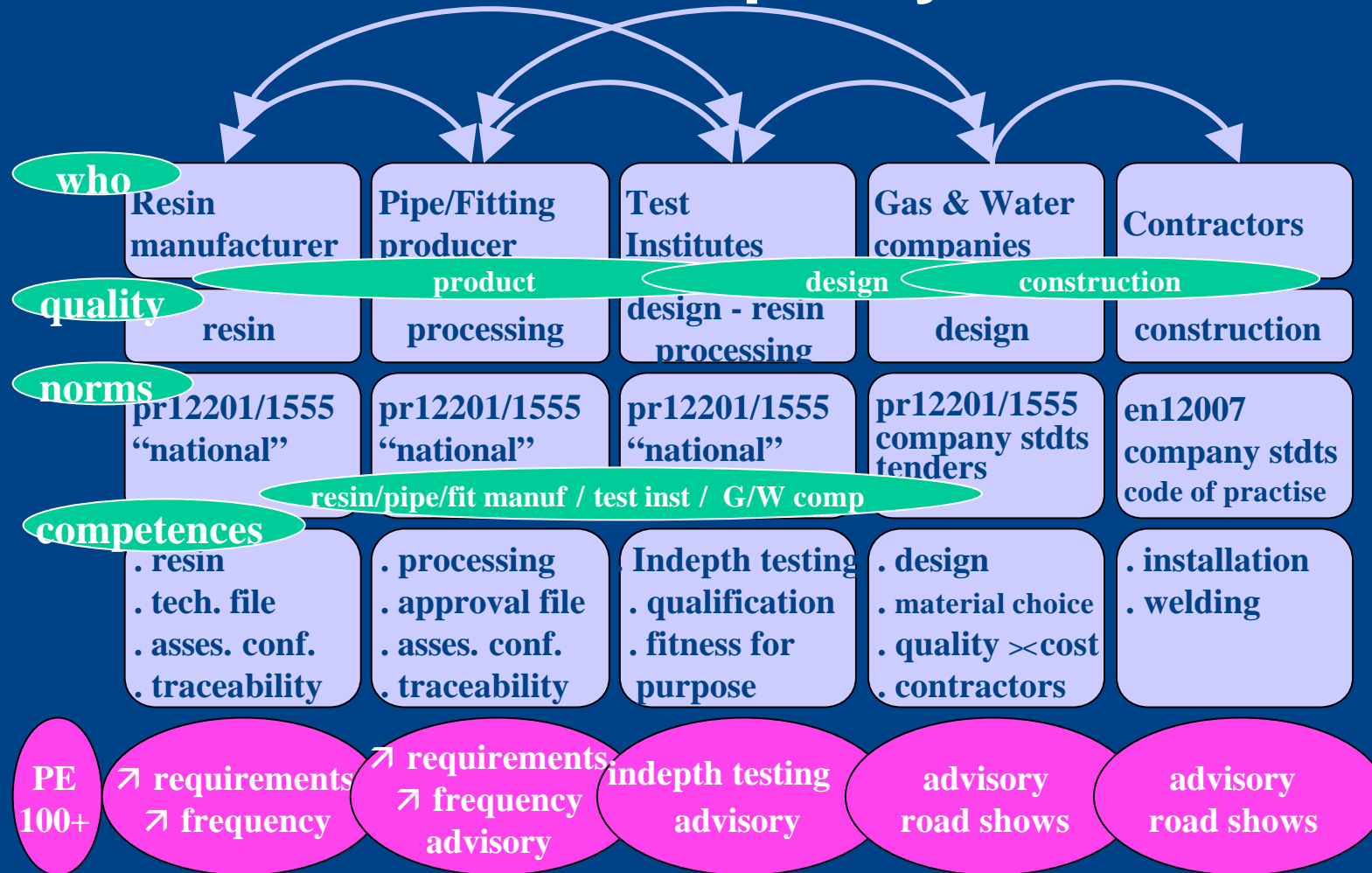
- **Toulouse 1998:** informal feedback from the market about the idea of the Association
- **Madrid 1999:** European market survey, combined with a workshop on the goals of the Association
- **Brussels 2000:** content and layout of our marketing tools
- **Napoli 2001:** “optimisation of the co-operation in the chain”

Napoli meeting of the advisory committee

- Several partners made presentations how to guarantee the value throughout the chain.
- Points of view from very different sources led to a common approach



PE100+ role in the quality chain



Conclusions

- In the past, the PE100+ Association focused on testing and quality control
- Marketing issues are at least as important
- Together with the Advisory committee, the PE100+ Association will construct a model showing both performance and advantages of PE pipe systems all over the chain

