



SWOT ANALYSIS ON SPECIFICATION OF DURABILITY BY PERFORMANCE

Tom Harrison

From an RMC perspective

- **S**trengths
- **W**eaknesses
- **O**pportunities
- **T**hreats

created by the specification of durability by performance

but under what concept of application?

Options

Option	Brief description
A	Pure performance (option to use limiting values as deemed-to-satisfy)
B	Performance plus limiting values
C	Modified performance plus limiting values
D	Use national limiting values to determine ERC; conformity to limiting values accepted as conformity to ERC
E	Provide as alternative in Annex to EC2
F	Do nothing new

CEN/TC104/SC1/WG1 view on Options

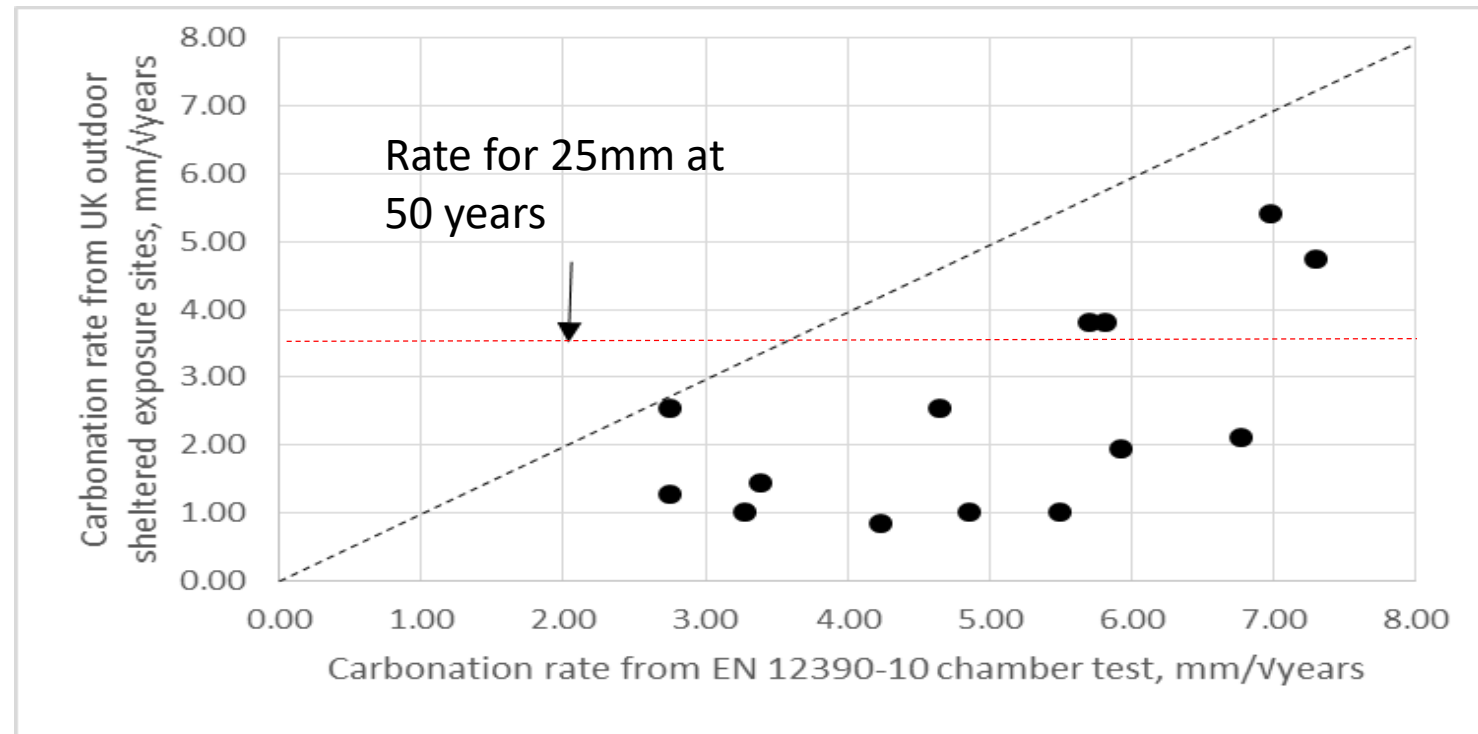
Option	Brief description	Level of support
A	Pure performance (option to use limiting values as deemed-to-satisfy)	0%
B	Performance plus limiting values	10% (strong opposition based on national limiting values already proven)
C	Modified performance plus limiting values	0%
D	Use national limiting values to determine ERC; conformity to limiting values accepted as conformity to ERC	37% (37 + 26) = 63%
E	Provide as alternative in Annex to EC2	48% but 55% of these votes (26% total vote) wanted Option D in Annex
F	Do nothing new	5%

Strengths

- More directly linked to what the specifier requires, e.g. carbonation resistance, chloride resistance, freeze-thaw resistance
- System will achieve performance plus sustainability
- System copes with ever increasing range of constituents, but Note current proposals are limited to standardized constituents

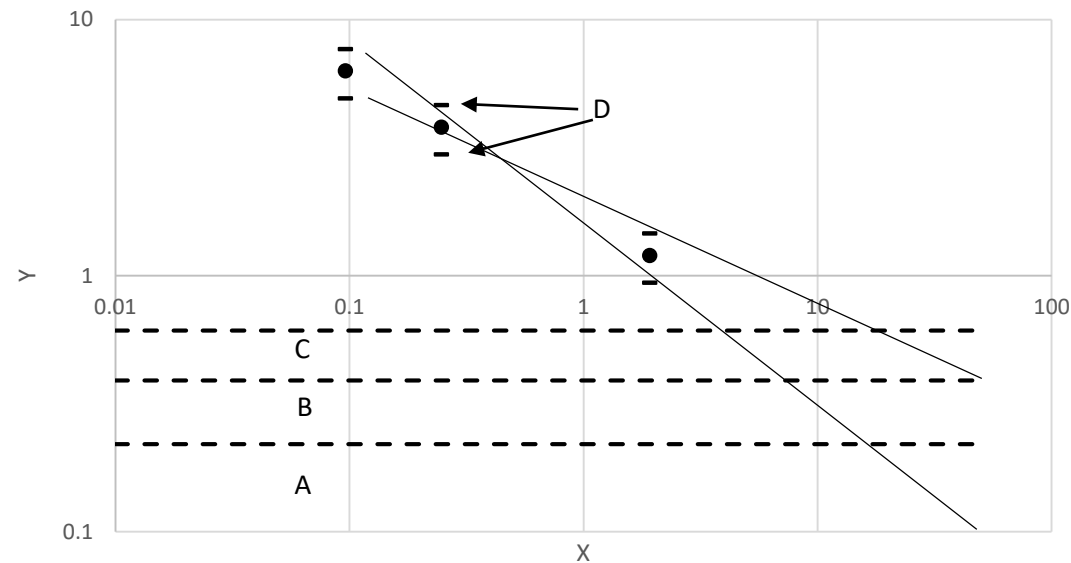
Weaknesses

- Link between performance in test and performance in real structures



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- Precision of tests



Weaknesses

- Link between performance in test and performance in real structures
- Precision of tests
- Time to complete reference tests
- Costs of testing

Opportunities

- For some sets of constituents, less restrictive limiting values, but this benefit will depend on whether limiting values are specified in addition to performance, and the value of any such limiting values
- Route to use constituents standardized at the European level but unknown locally
- Potential for RMC producers to offer a more sustainable concrete with proven performance

Threats

- Unknown how normal changes in production will impact the performance in the test method
- Risk of non-conformity unknown and therefore managing commercial risks is also unknown
- ERC defined in terms of performance with deemed-to-satisfy limiting values. What happens when producer uses deemed-to-satisfy rules and client uses performance and the concrete fails the performance test?

Conclusions

- Performance approach will be driven by specifiers
- In some form, the specification of durability will be introduced into European standards
- Incremental approach better for all parties
- ERMCO should support this development and ensure it is done in a technically sound and cost effective manner



**THANK YOU
FOR YOUR ATTENTION!**

thomas.harrison.lehon@orange.fr