

Overview of the Evolution of prCEN/TS 19100: Design of glass structures

2020-09-02

Structure of this slide deck

- General overview of the evolution of prCEN/TS 19100
- Specific overview of the evolution of prCEN/TS 19100 parts:
 - *prCEN/TS 19100-1: Basis of design and materials*
 - *prCEN/TS 19100-2: Design of out-of-plane loaded glass components*
 - *prCEN/TS 19100-3: Design of in-plane loaded glass components and their mechanical joints*

General overview of the Evolution of prCEN/TS 19100: Design of glass structures

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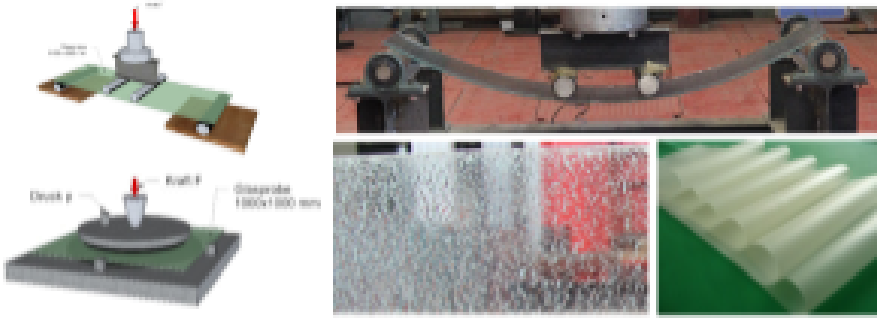
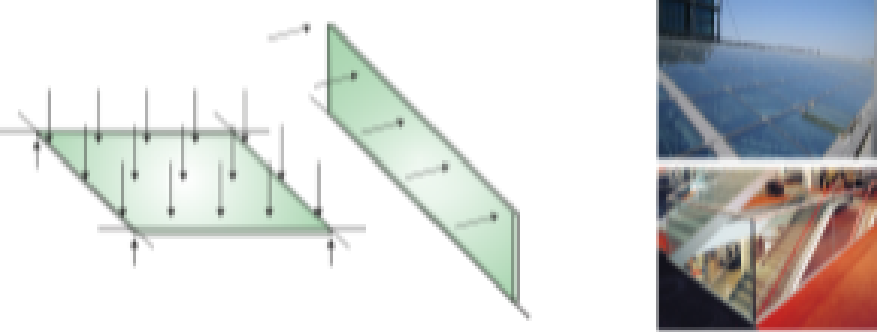
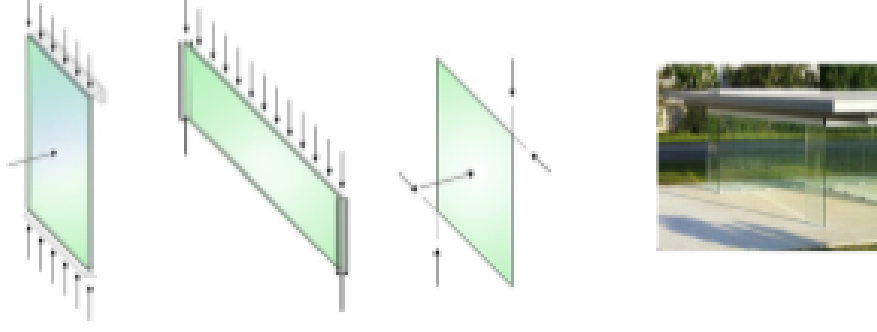


Agenda – Evolution of prCEN/TS 19100

- Key items
- Scope and content
- Ease of use

The following slides provide a general overview of the evolution of prCEN/TS 19100. Complementary slides provide greater details for individual Eurocode Parts.

Scope and content, key items

<p>part 1 Principles and Materials</p>	<ul style="list-style-type: none"> • “Design philosophy” • Glass types, strengths and characteristics • Interlayers and its features 	
<p>part 2 Design of out-of-plane loaded glass components</p>	<ul style="list-style-type: none"> • Elements that do not transfer loads from superordinated structure • Out-of-plane loading (only) 	
<p>part 3 Design of in-plane-loaded glass components and their mechanical joints</p>	<ul style="list-style-type: none"> • Elements that also transfer loads from superordinated structure • Out-of-plane loading • In-plane loading 	



Key items

- (2) Glass components should be designed for the following limit states as relevant:
 - the Serviceability Limit State (SLS) where glass is unfractured,
 - the Ultimate Limit State (ULS) where glass is unfractured,
 - the Fracture Limit State (FLS) during the event of fracture,
 - the Post Fracture Limit State (PFLS) where glass is fractured.

	Limit State Scenario (LSS)			
	LSS-0	LSS-1	LSS-2	LSS-3
Design for the unfractured glass state	SLS	SLS	SLS	SLS
	ULS	ULS	ULS	ULS
Design for the glass fracture state (safe glass fracture)		FLS		FLS
Design for the post-fractured state (residual load capacity)			PFLS	PFLS

How ease of use has been considered

- improving the application of drafting rules according to the updated CEN/CENELEC Internal Regulations (with the support of the ad-hoc document N 1250 v 9.1)
- The comprehensibility of the norm was achieved by clear ordering of the parts and paragraphs, elaborating the concept and logic in a clear hierarchy, from large to small.



How ease of use has been considered

- structuring the documents, so that the coverage of the most important and general cases are included in the main part while technical details are covered in annexes
- simple navigation through the documents



How ease of use has been considered

- alternative application rules, as well as the introduction of NDPs, are limited to a necessary minimum
- innovations when introduced (usually following relevant systematic review comments) where based on an appropriate review of recent international literature and international standards and a consolidated state-of-the-art