

# Compressive behavior of SFRC in new EC2, Annex L

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2<sup>nd</sup> Generation EC2 — Madrid, October 17<sup>th</sup> 2023

# Content

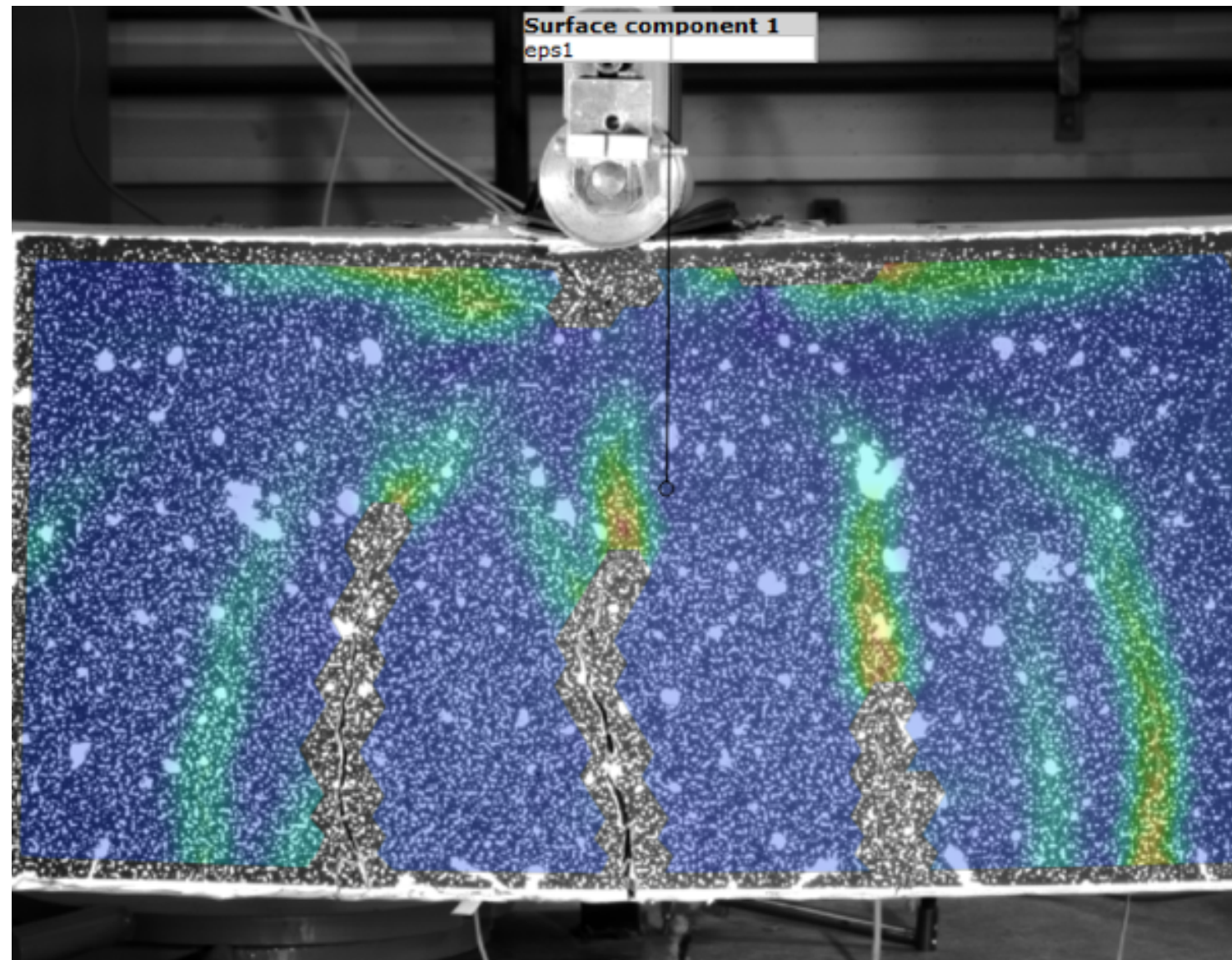
1. Introduction
2. SFRC in compression
3. Application example
4. Conclusions

# 1. Introduction



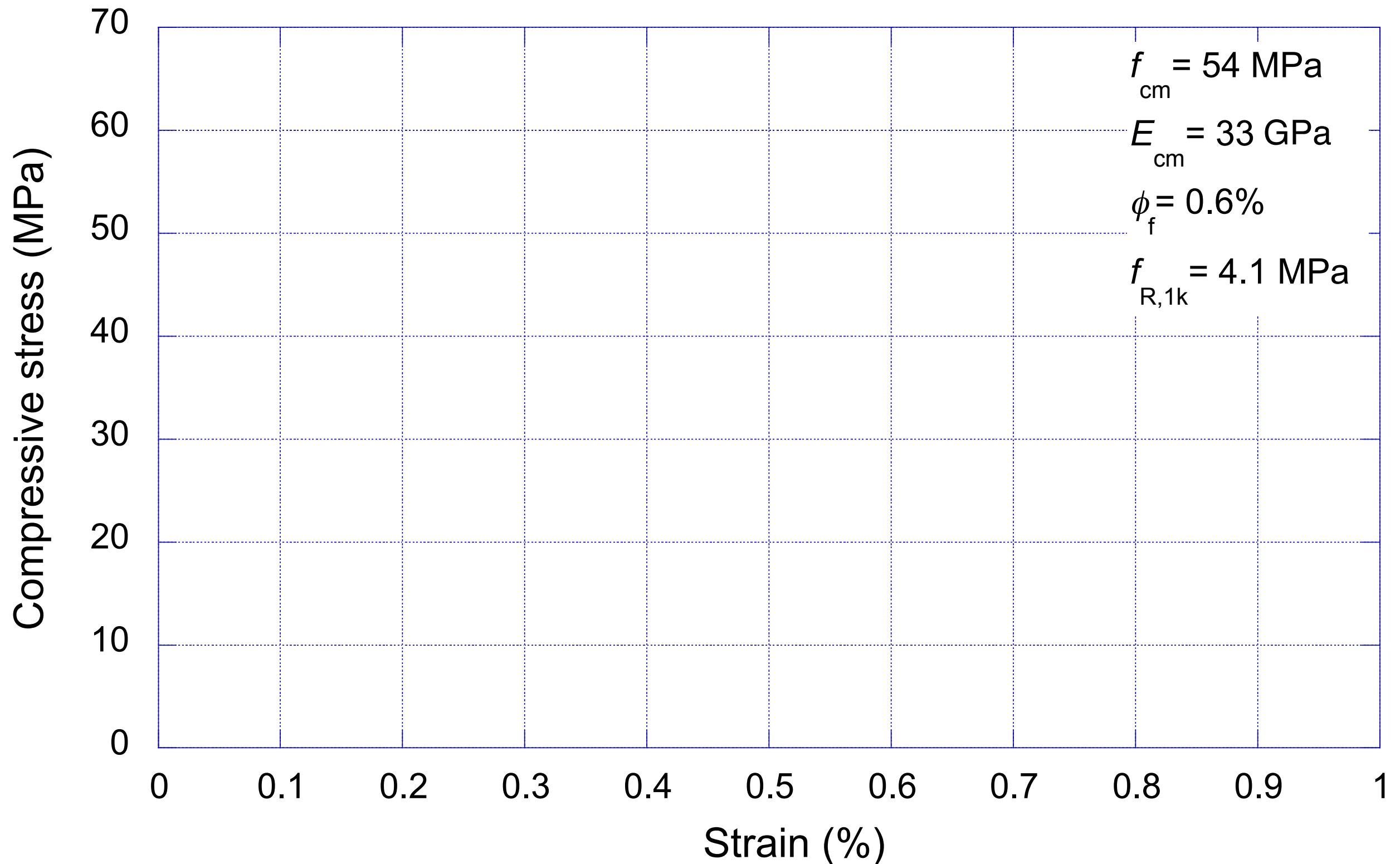


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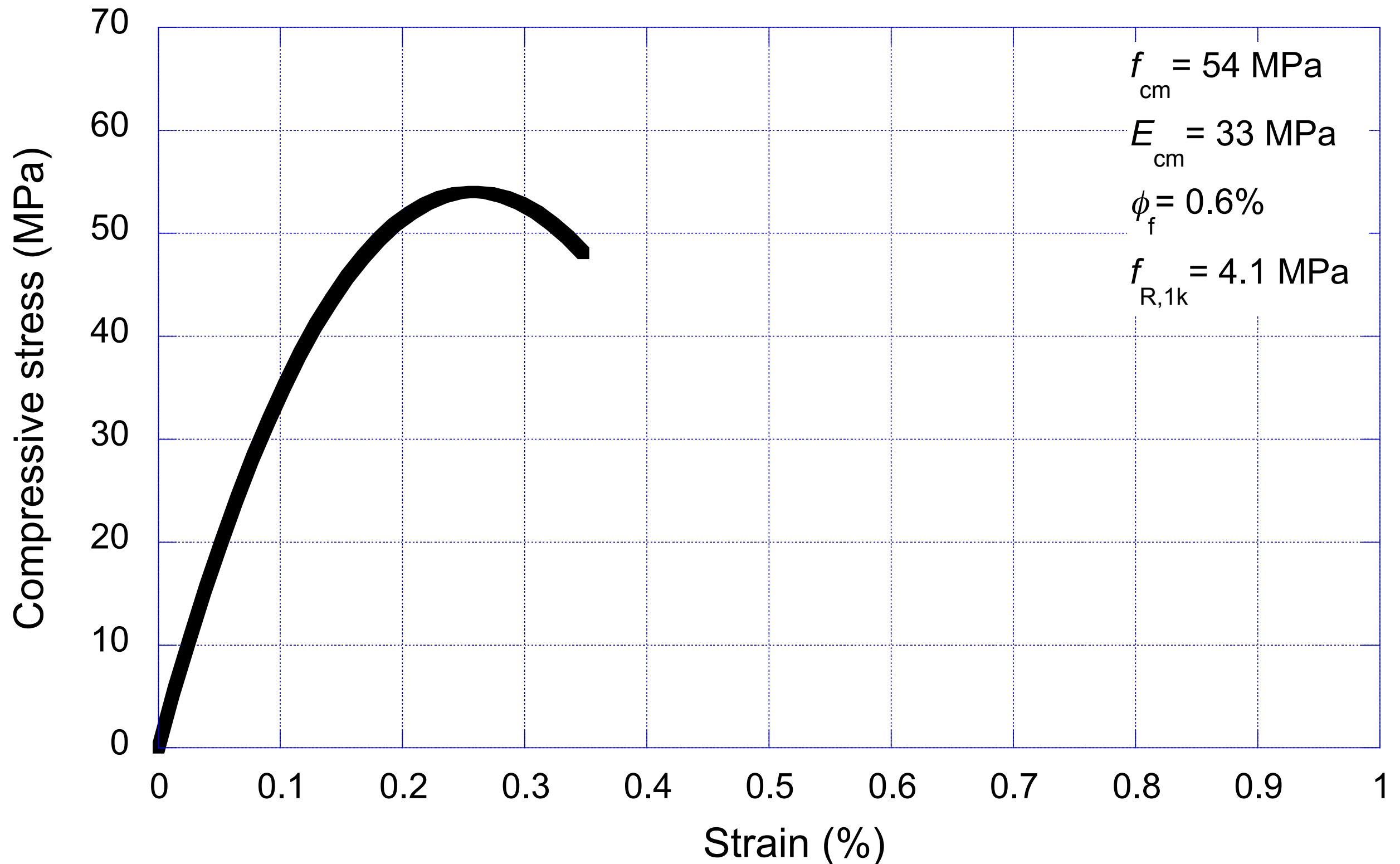




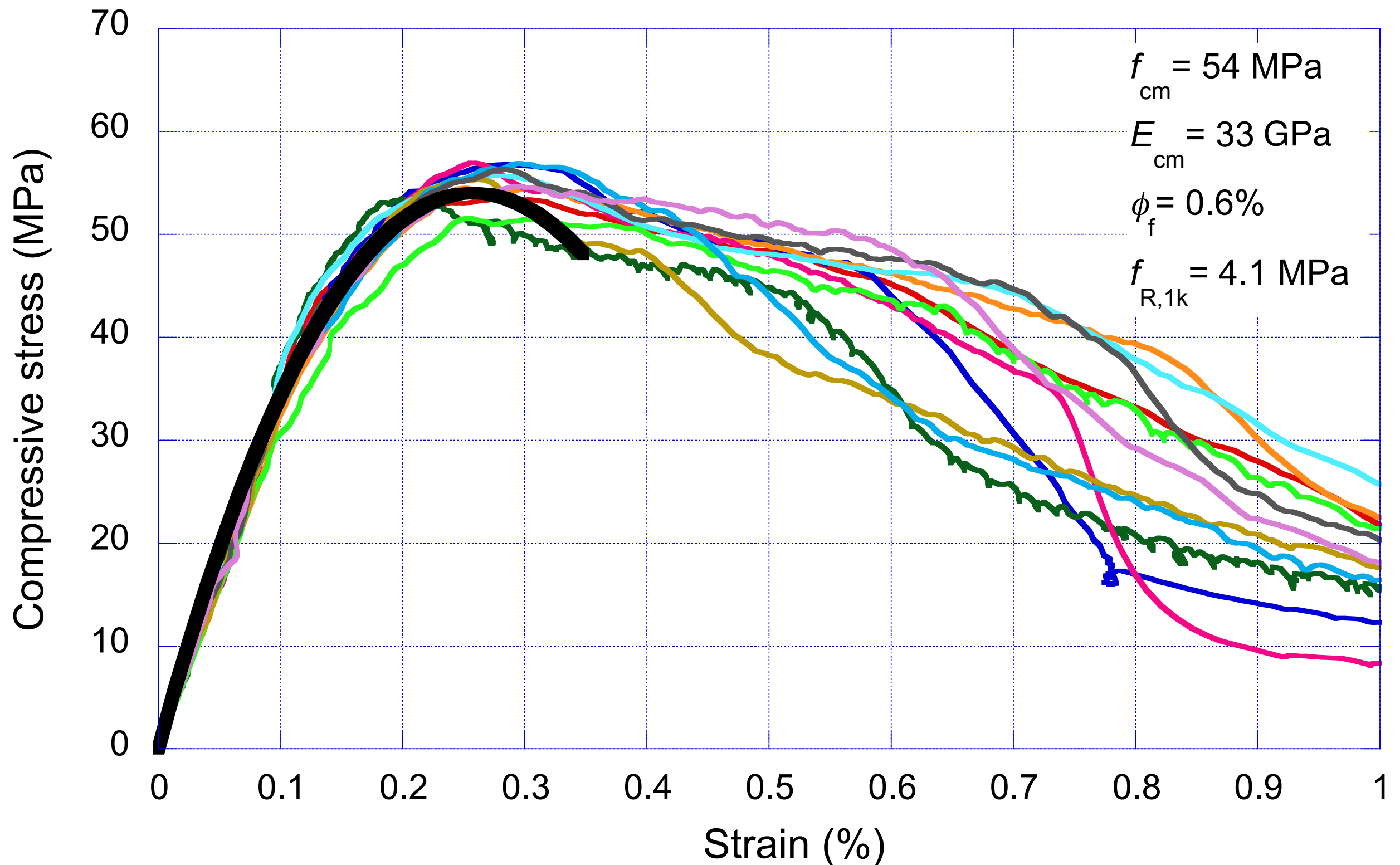
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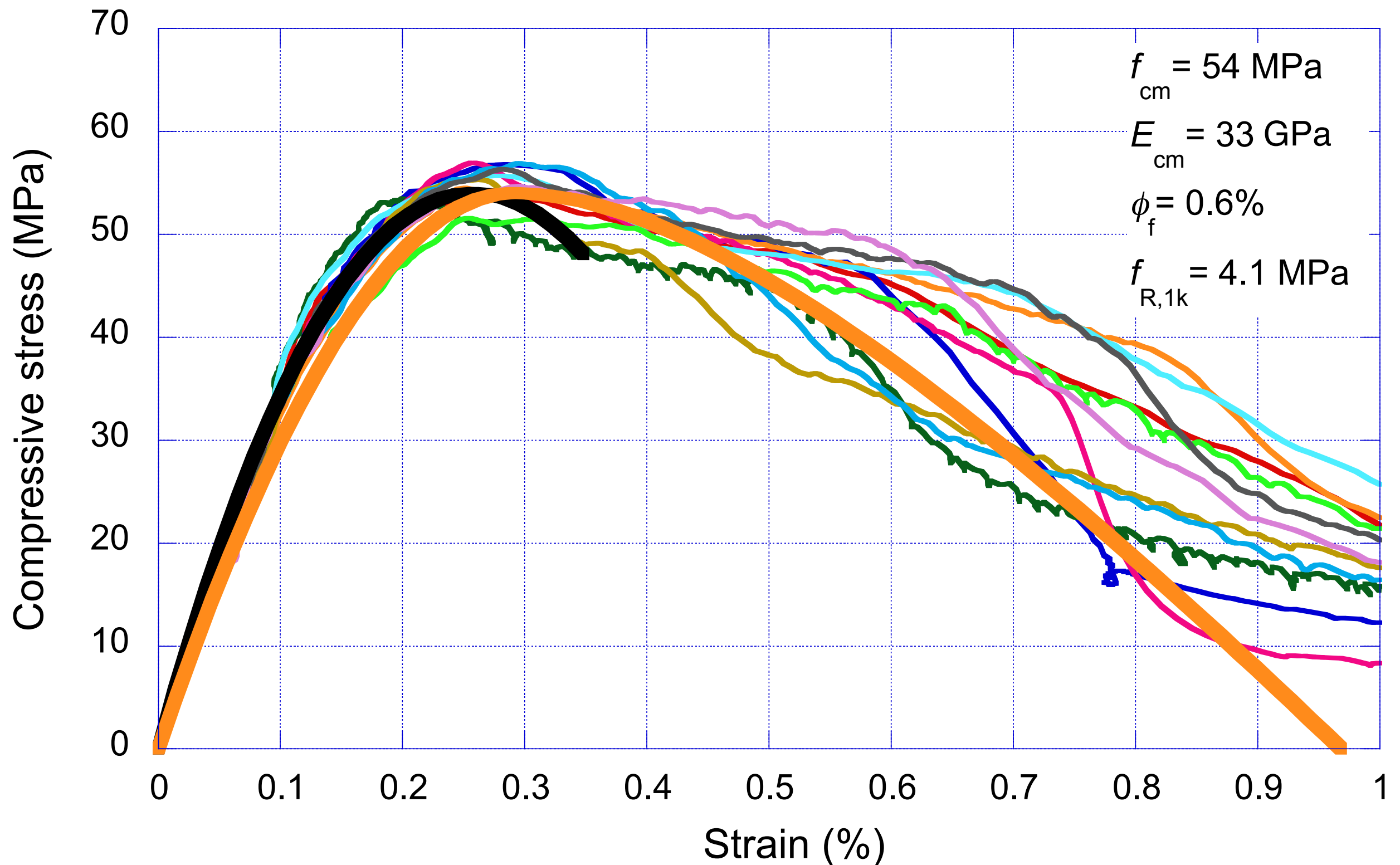


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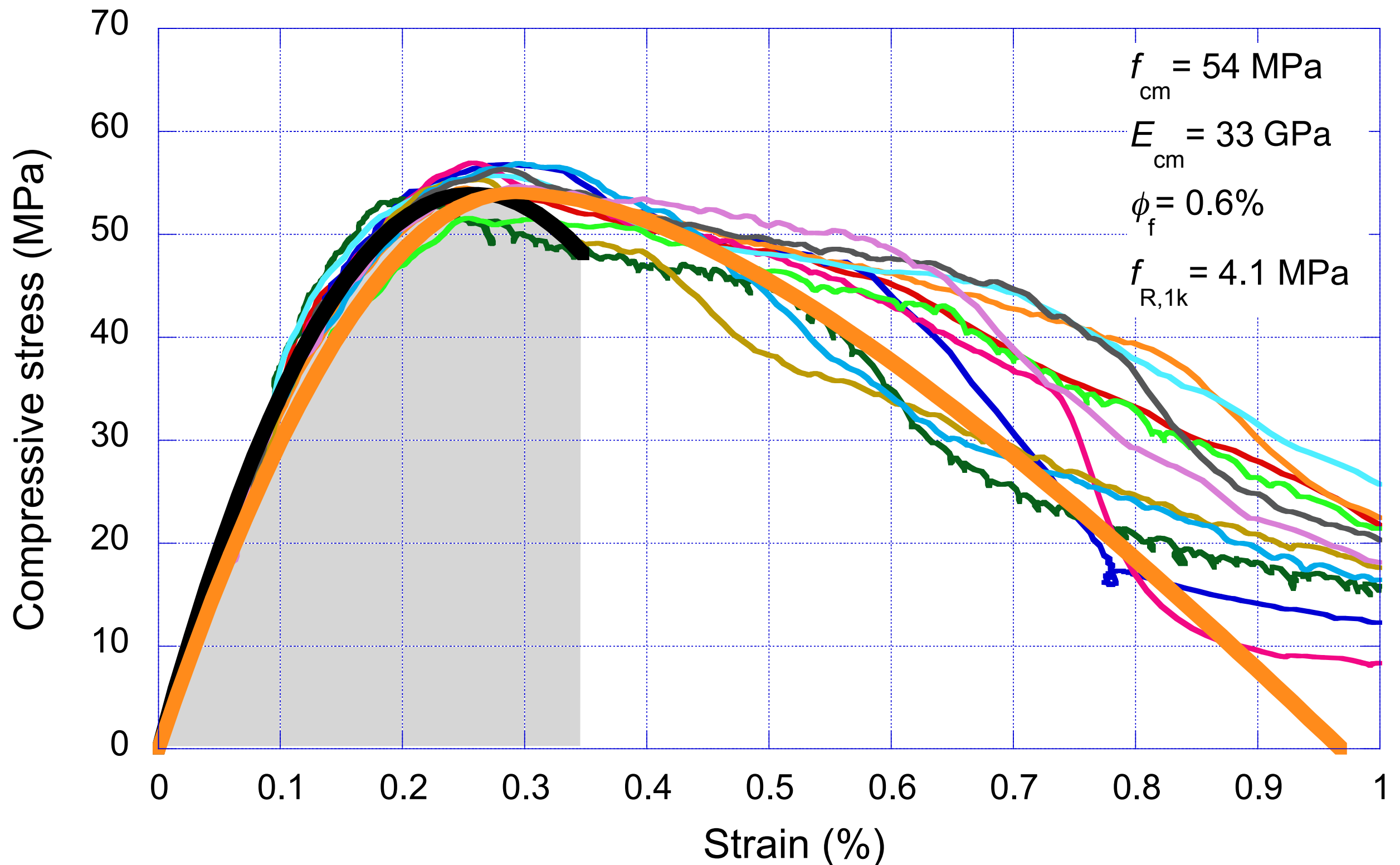




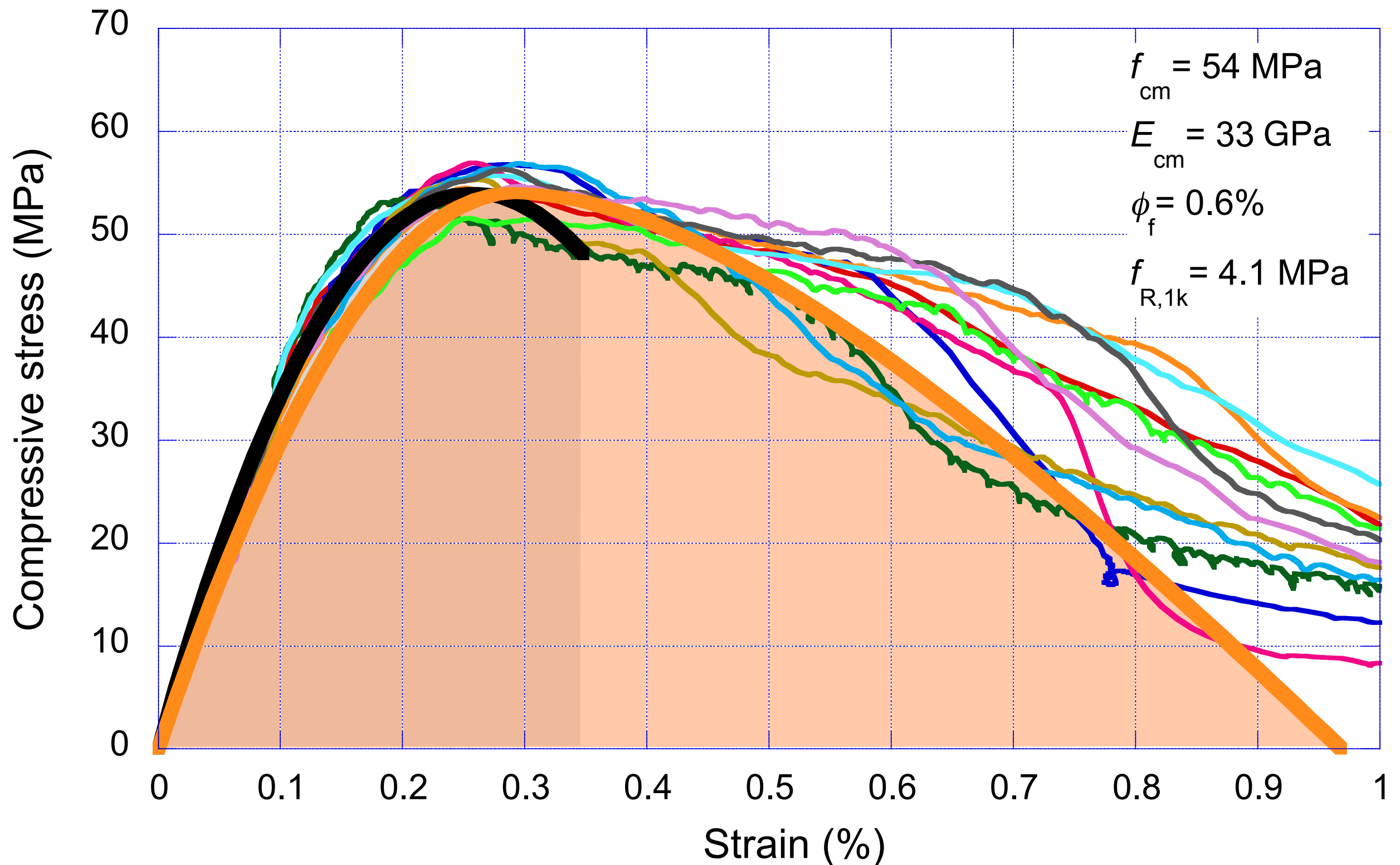
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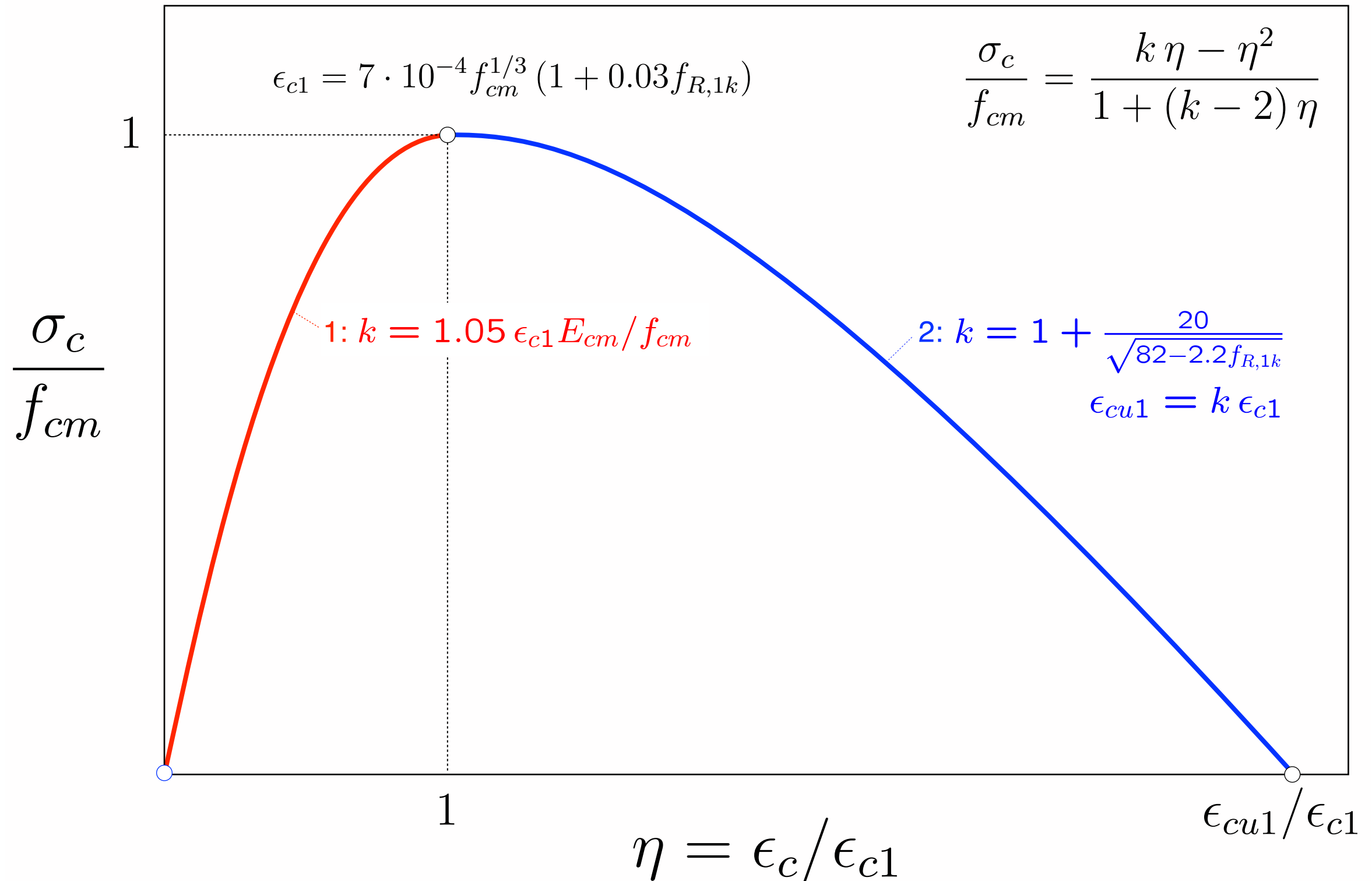


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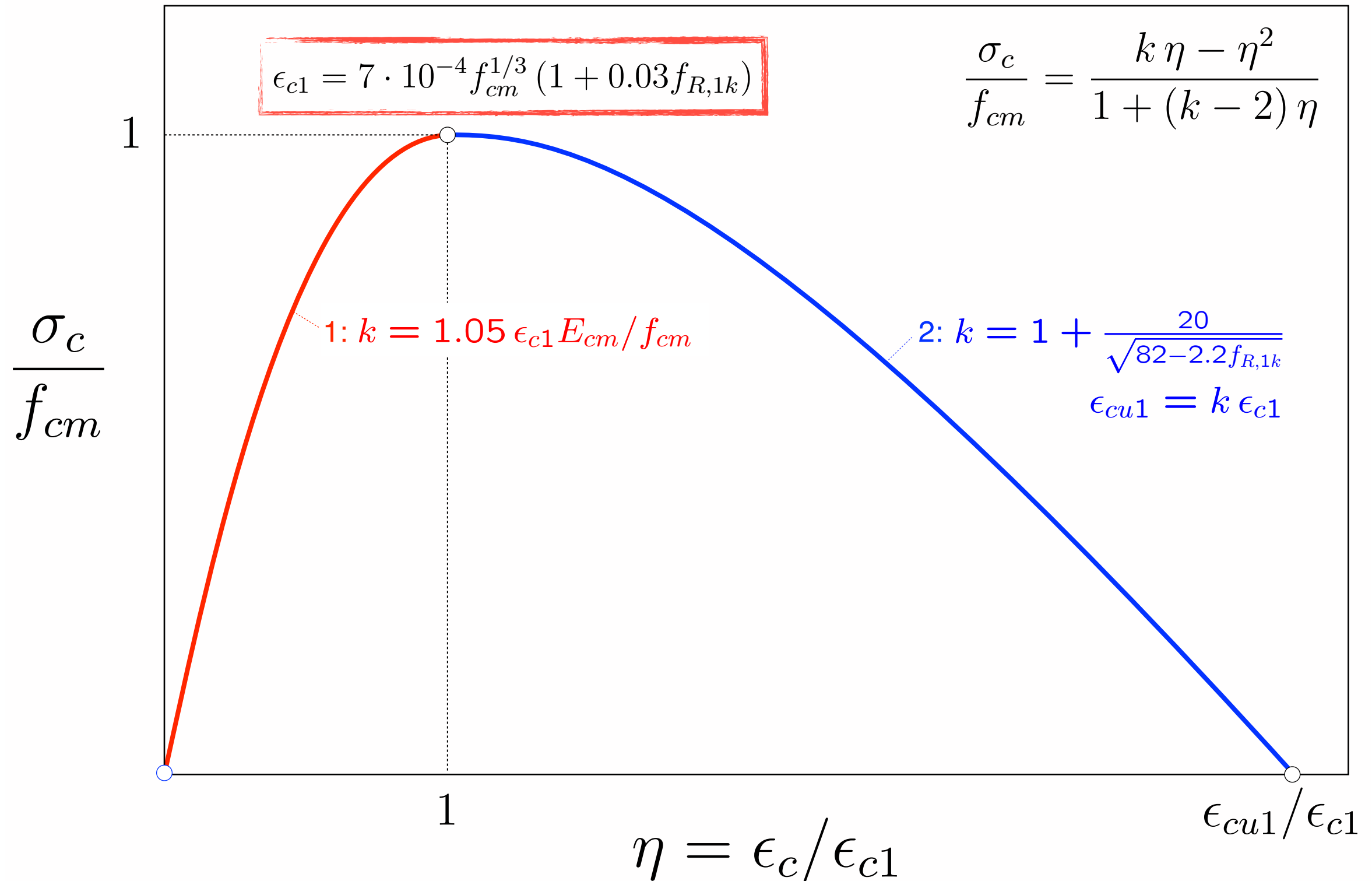




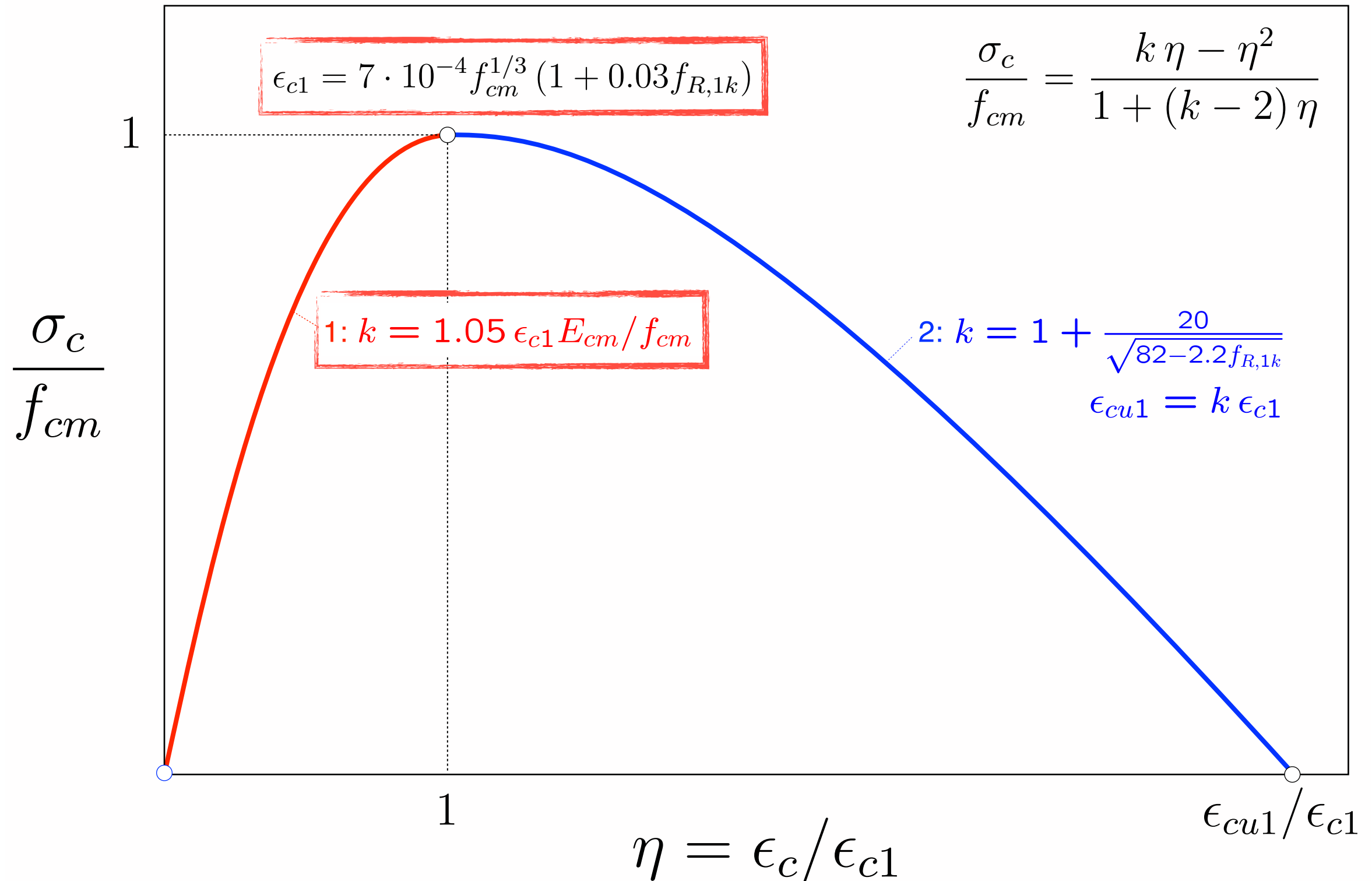
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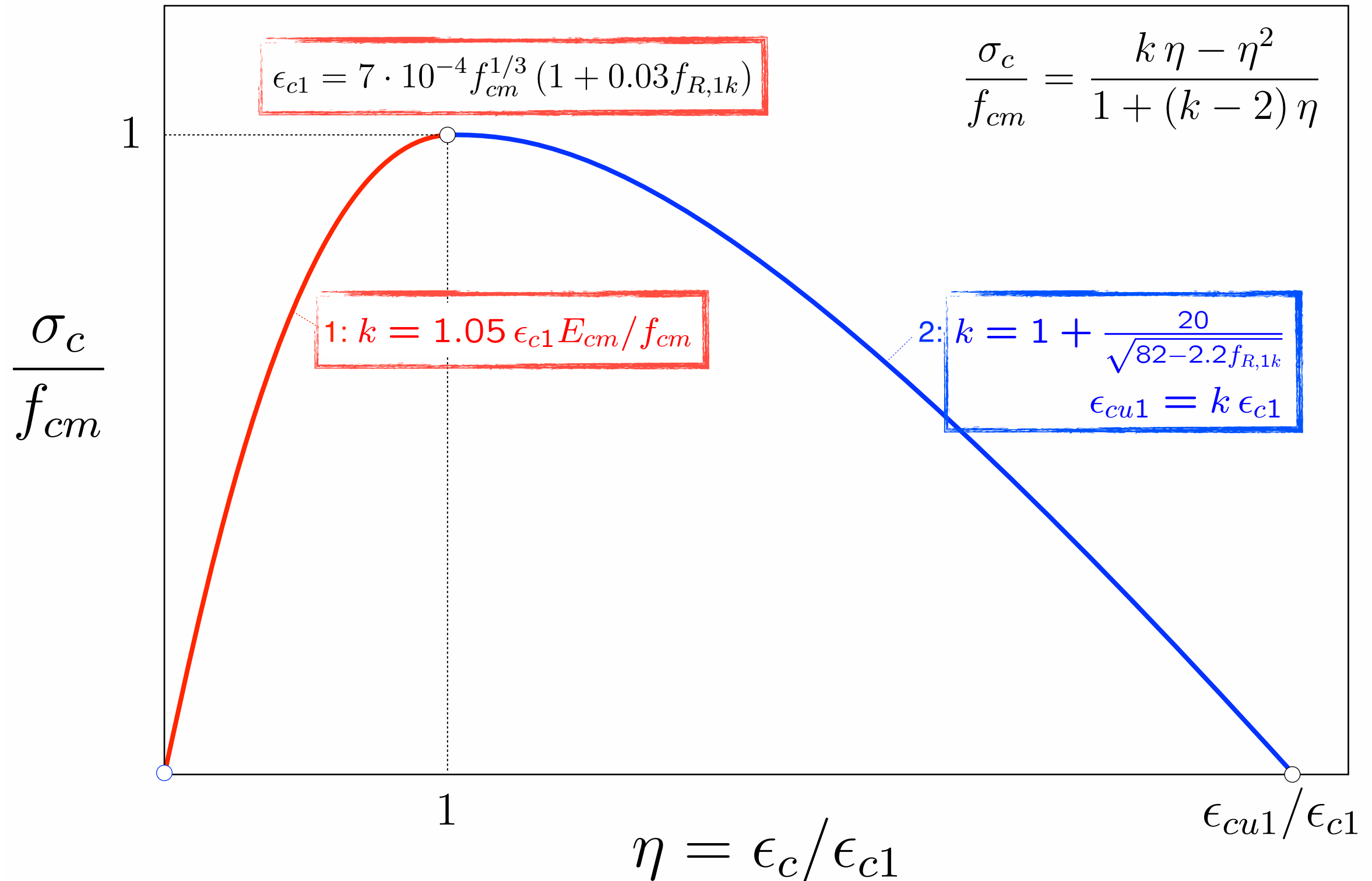


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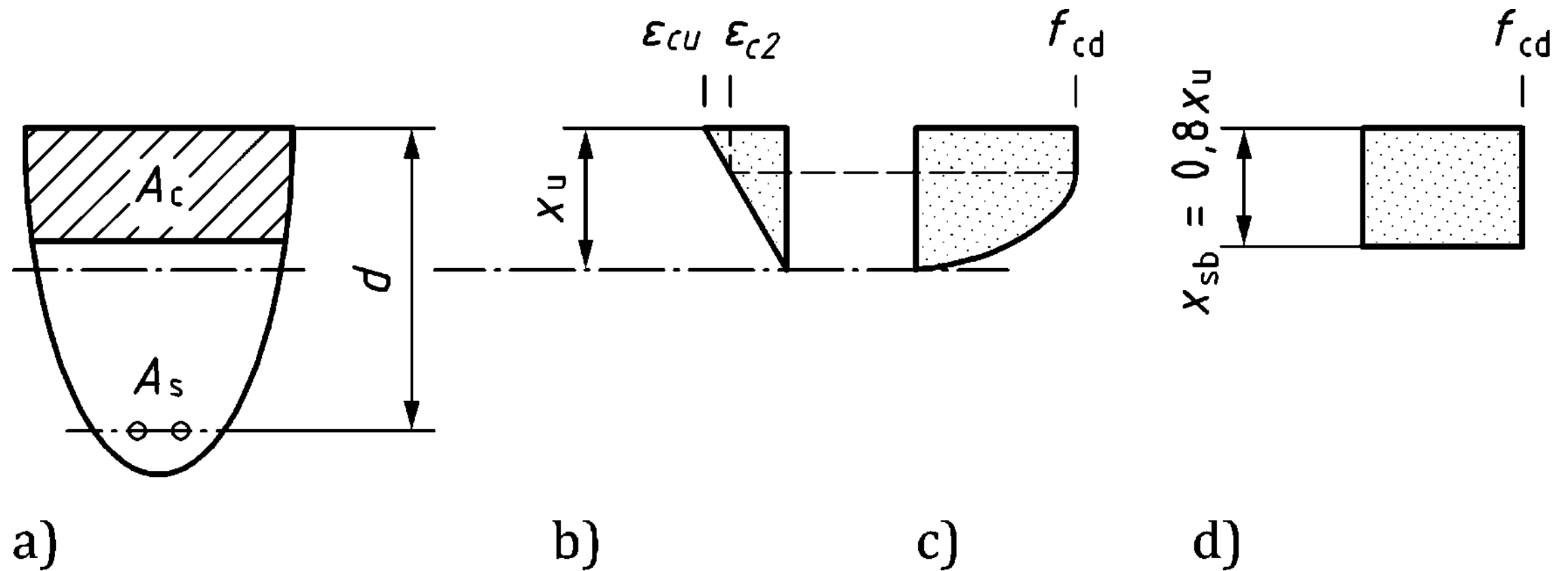




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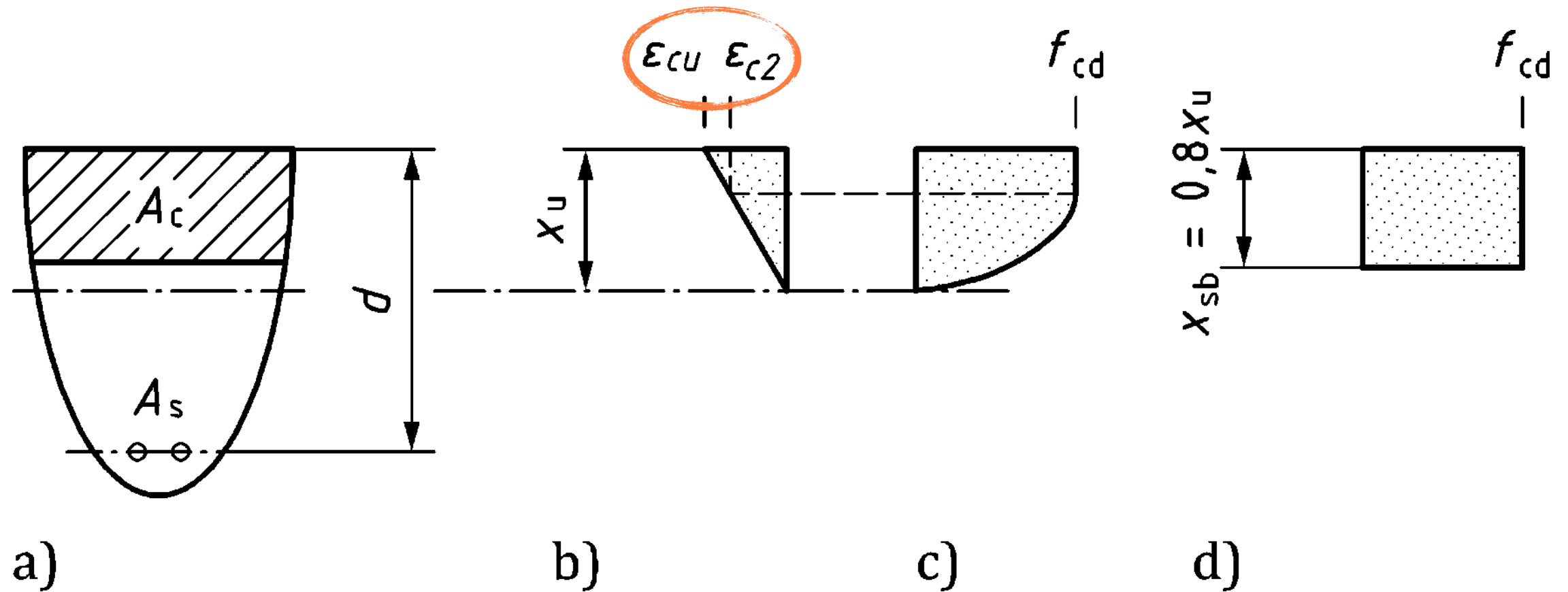


## 2. SFRC in compression: ULS



These parameters are 0.0020 and 0.0035, respectively, for concrete without fibres.

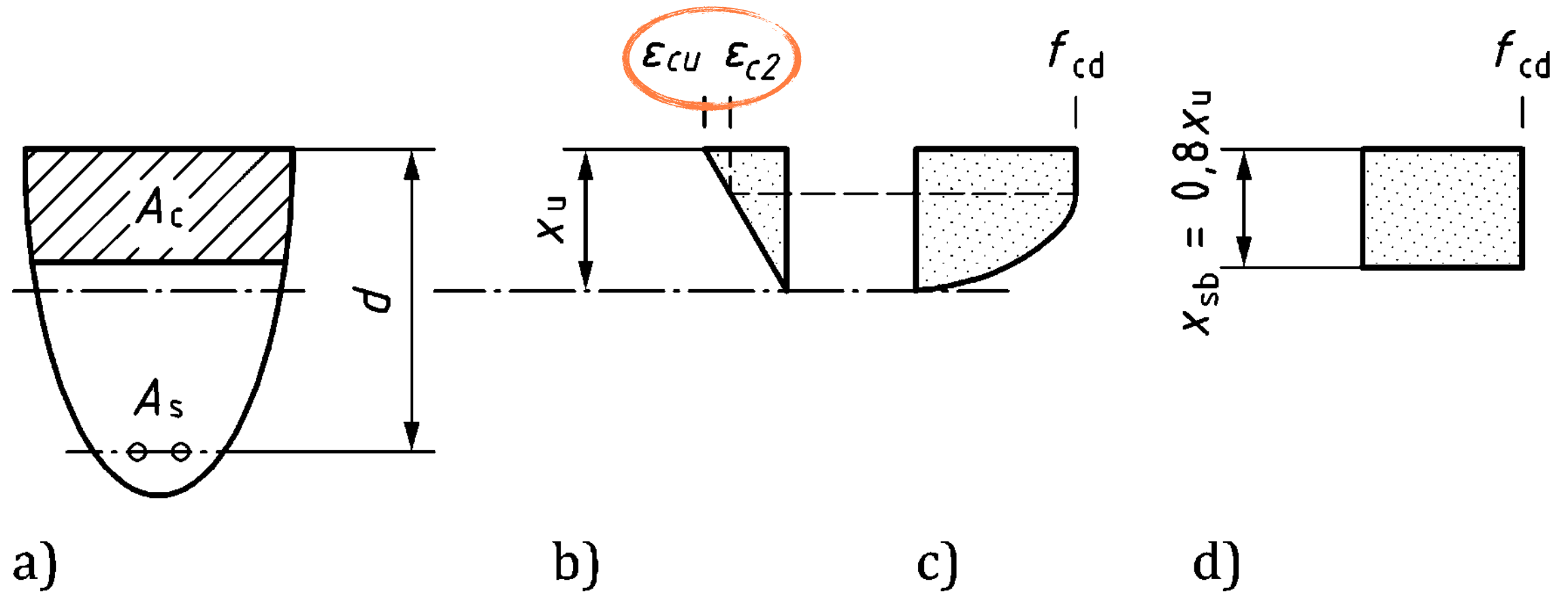
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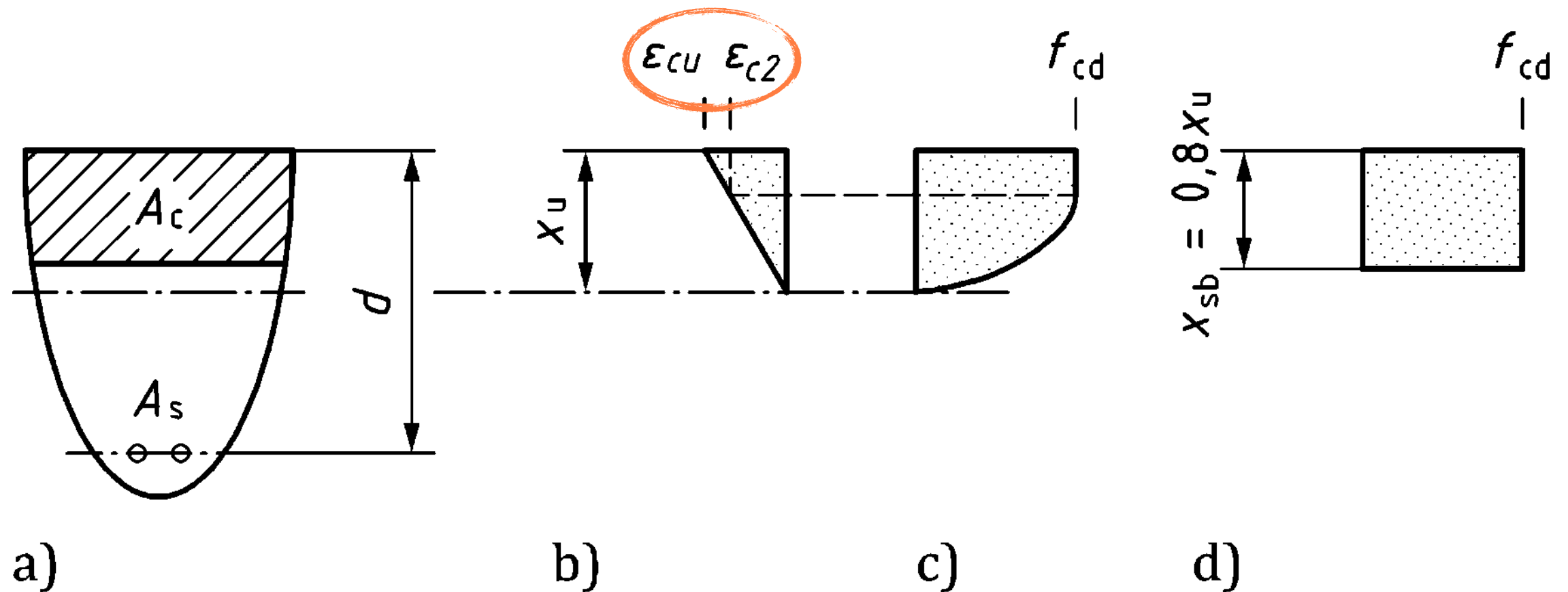


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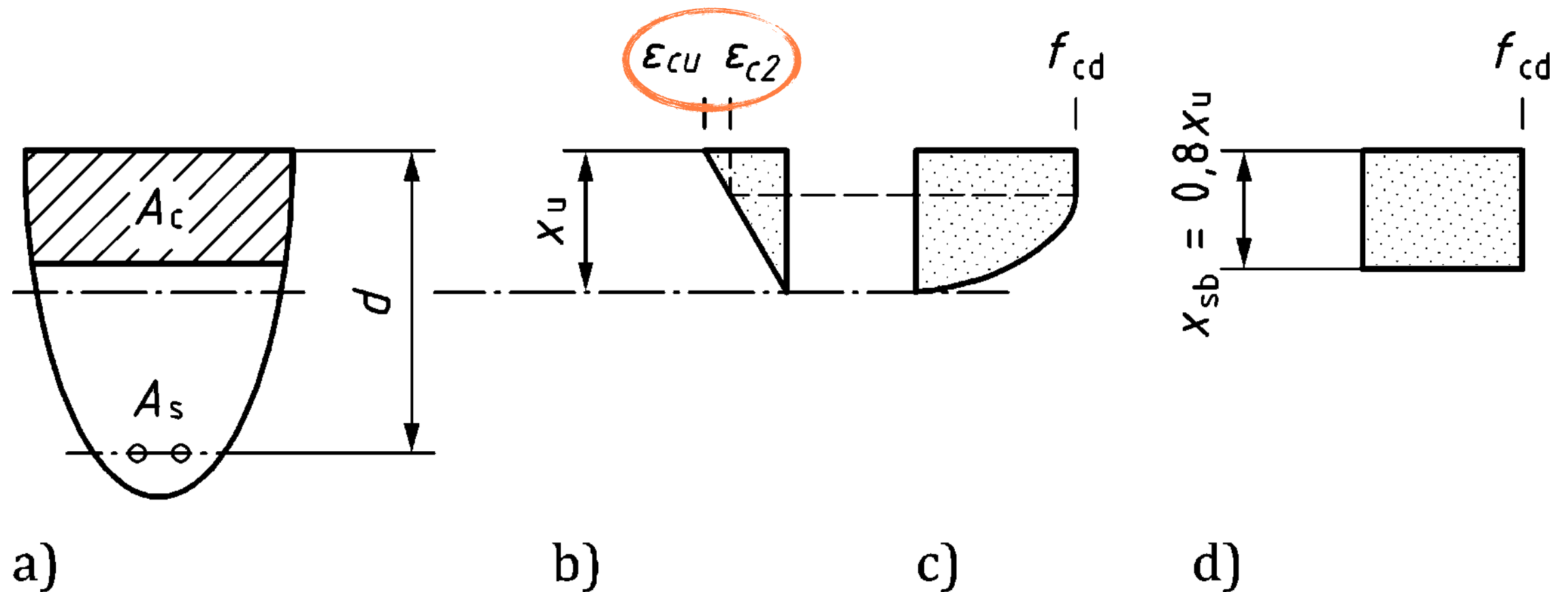
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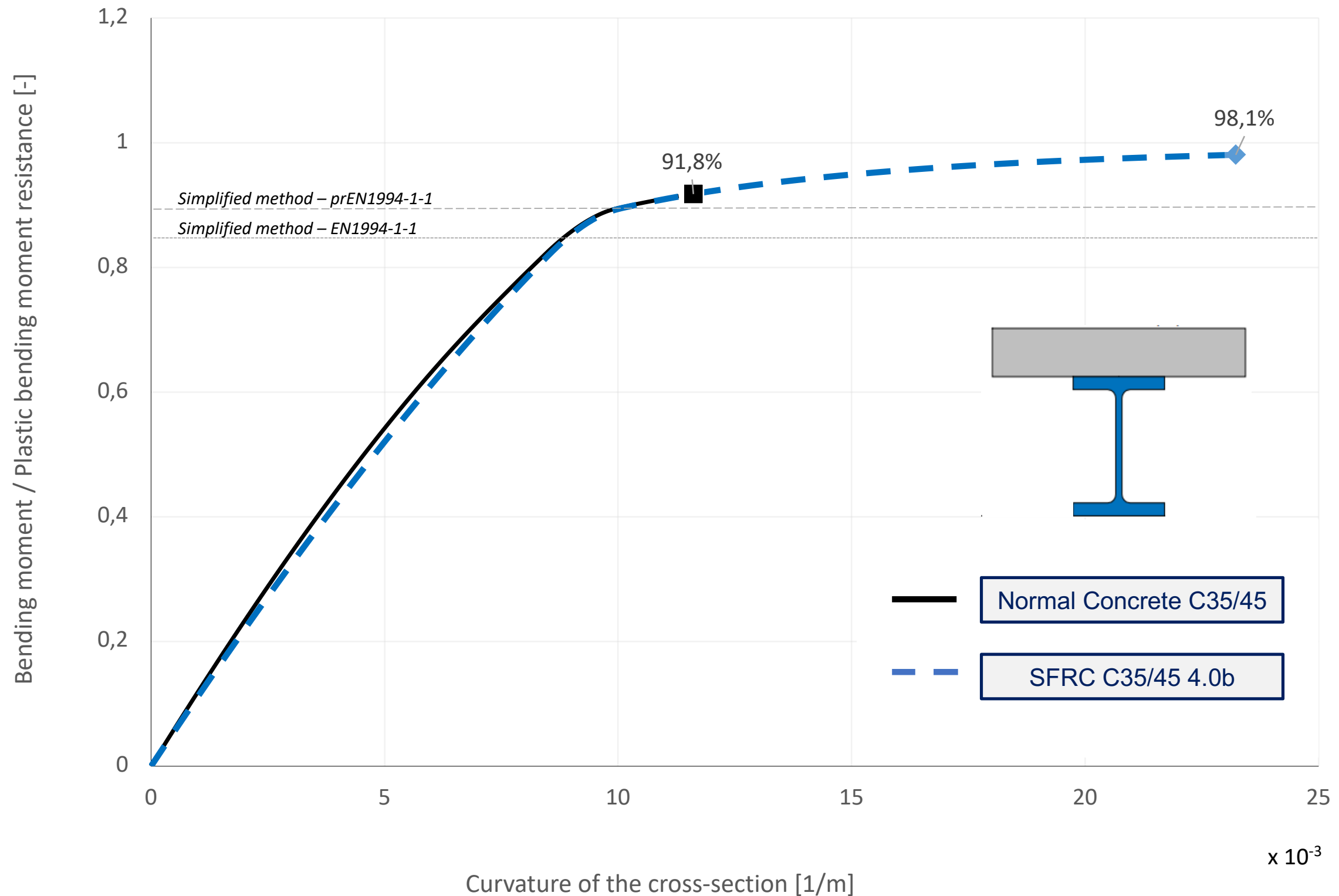
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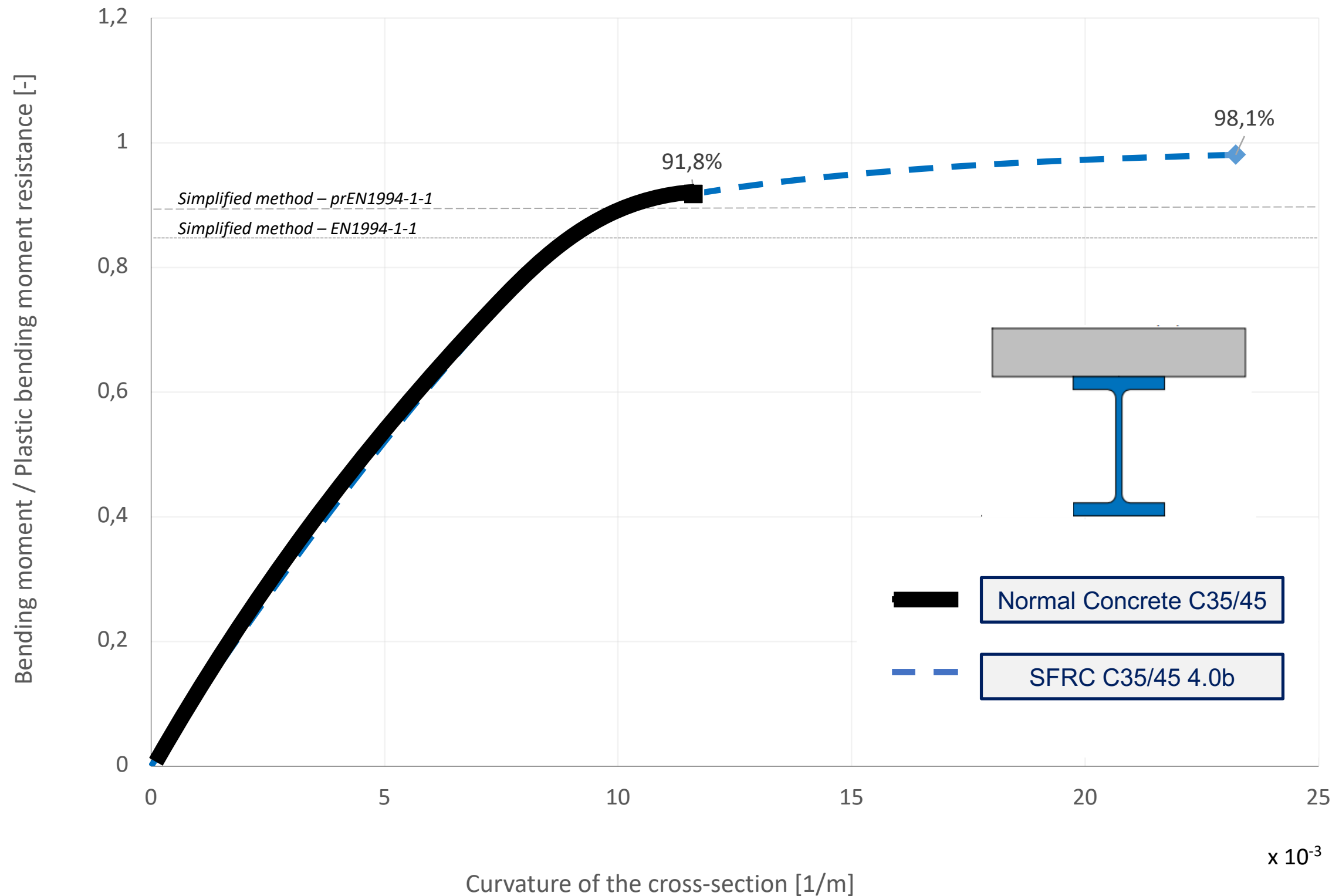
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# 4. Application example: Composite beam

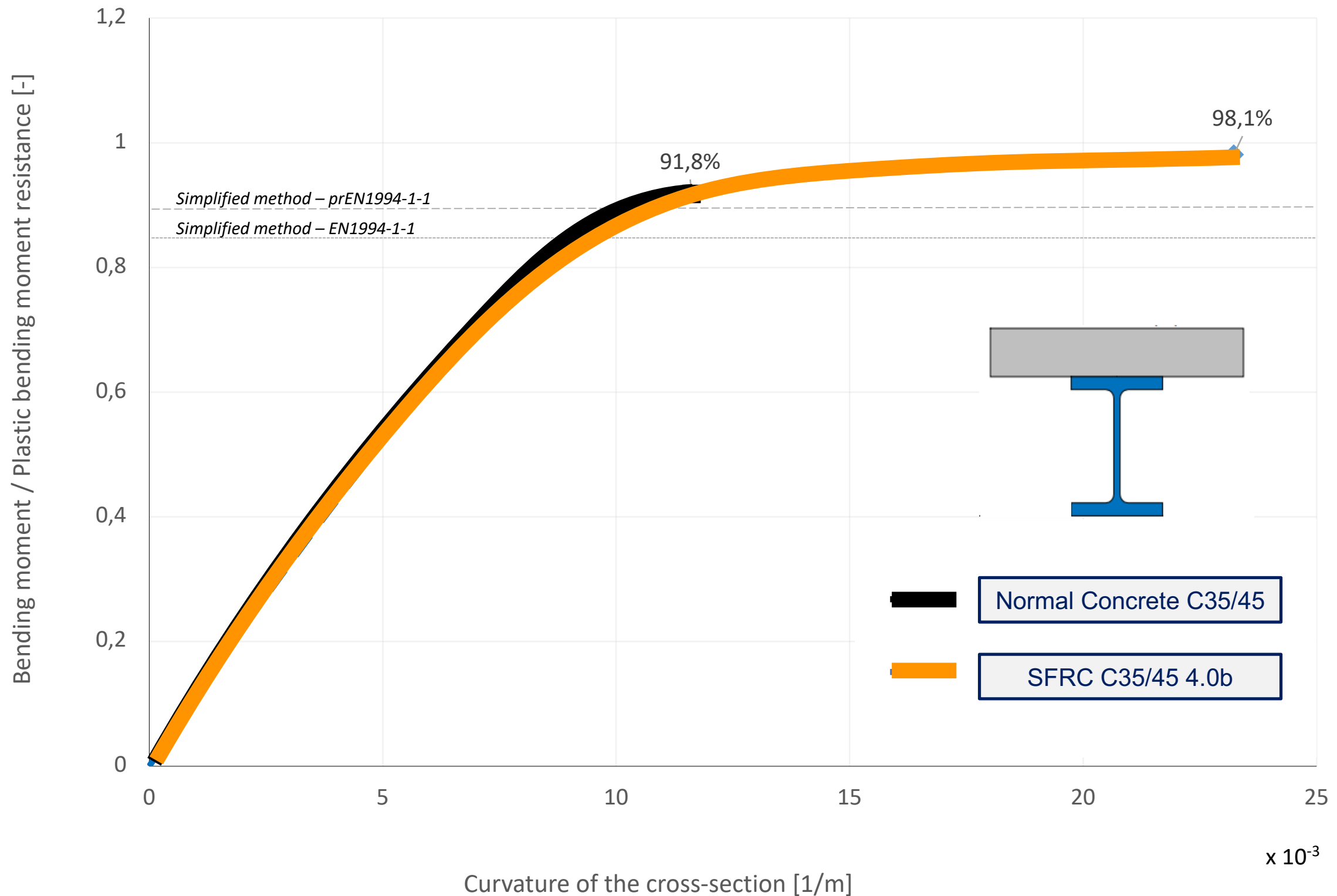


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- Compressive and flexural classes for SFRC are coupled
- The ultimate compressive strain in ULS goes up to 0.6%
- These new criteria are advantageous for composite structures





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<https://doi.org/10.33586/hya.2022.3092>

## Compressive Behaviour of Steel-Fibre Reinforced Concrete in Annex L of New Eurocode 2

*Comportamiento en compresión del hormigón reforzado con fibras de acero  
según el Anejo L del nuevo Eurocódigo 2*

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Markus Schäfer<sup>b</sup>, & Sébastien Wolf<sup>c</sup>

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ARTICLE

## Steel-fibre reinforced concrete in composite structures as a mean to increase resistance and ductility

### Outlook in a new generation of composite structures

In honor of the jubilarian Prof. Dr.-Ing. Wolfgang Kurz

Steel-fibre reinforced concrete is a well-known material used for decades for industrial floorings, shotcrete, or other specific applications. Its use is now spreading in structural applications as a complement or a substitute for conventional bar-reinforced concrete since the normative framework is ready to provide design approaches for several concrete applications.

**Steigerung der Tragfähigkeit und Duktilität für Verbundkonstruktionen aus Stahl und Beton durch Anwendung von Stahlfaserbeton – eine neue Generation von Verbundtragwerken**  
Stahlfaserbeton ist ein bekanntes Baumaterial, welches seit Jahrzehnten für Industrieböden, Spritzbeton oder andere spezifische Anwendungen zum Einsatz kommt. Seine Verwendung

Zanon, R.; Schäfer, M.; Ruiz, G.; De La Rosa, Á.; Zhang, Q. (2022) *Steel-fibre reinforced concrete in composite structures as a mean to increase resistance and ductility – Outlook in a new generation of composite structures*. Stahlbau 91, H. 12, S. 801–811.  
<https://doi.org/10.1002/stab.202200070>

# Compressive behavior of SFRC in new EC2, Annex L

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Thanks for your attention



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