# Compressive behavior of SFRC in new EC2, Annex L


Gonzalo Ruiz

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2nd Generation EC2 — Madrid, October 17th 2023

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# Content



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# 1. Introduction

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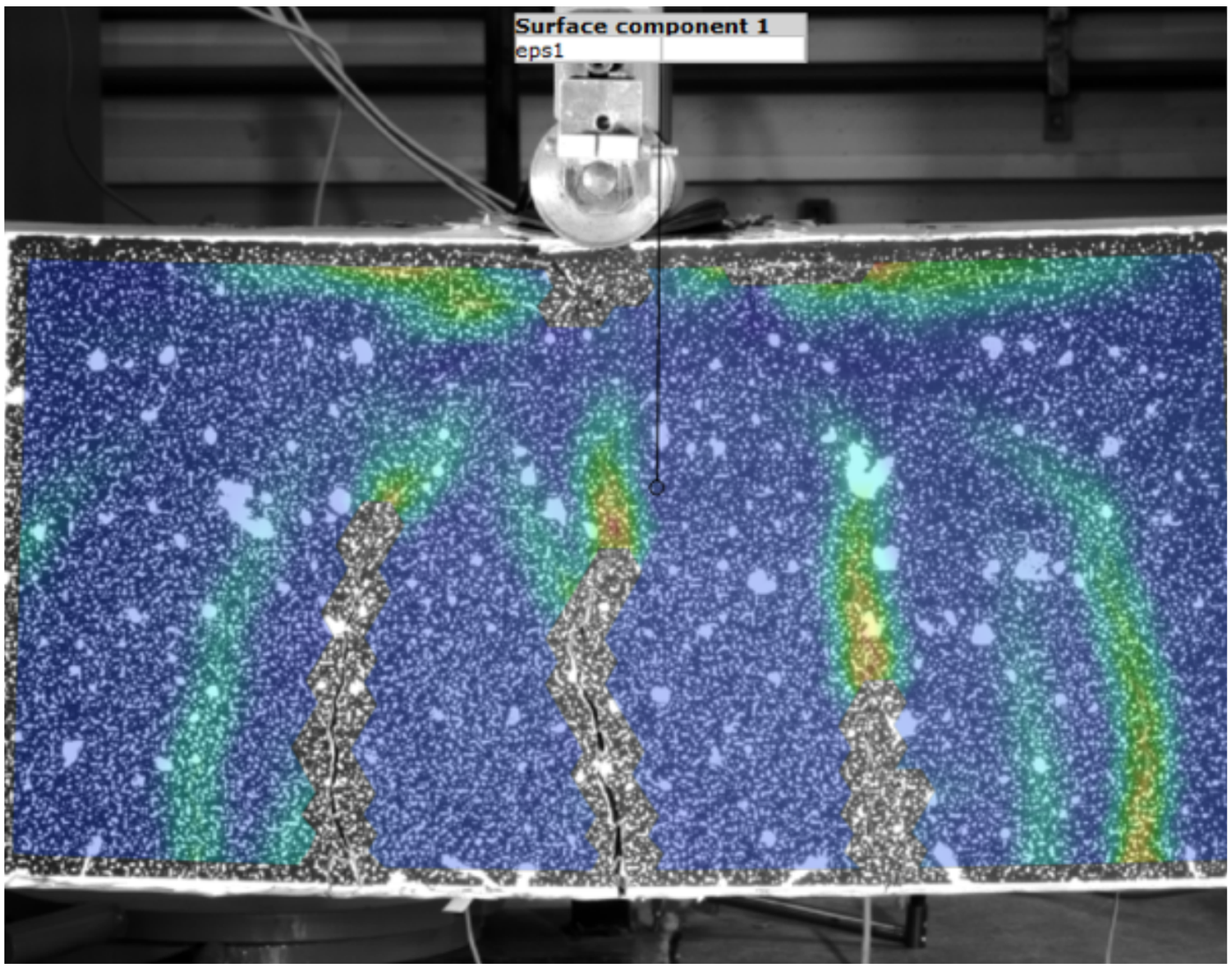


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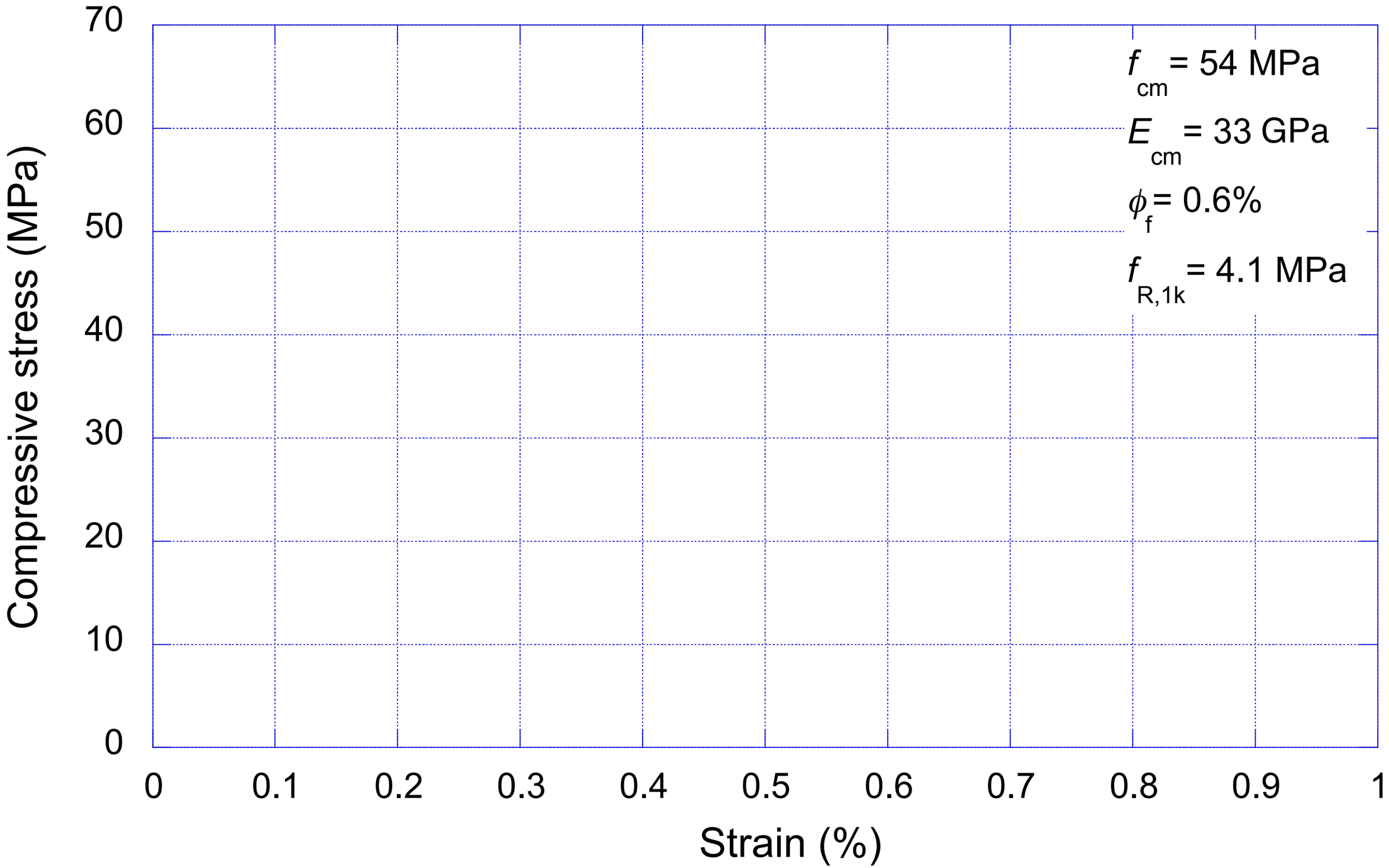


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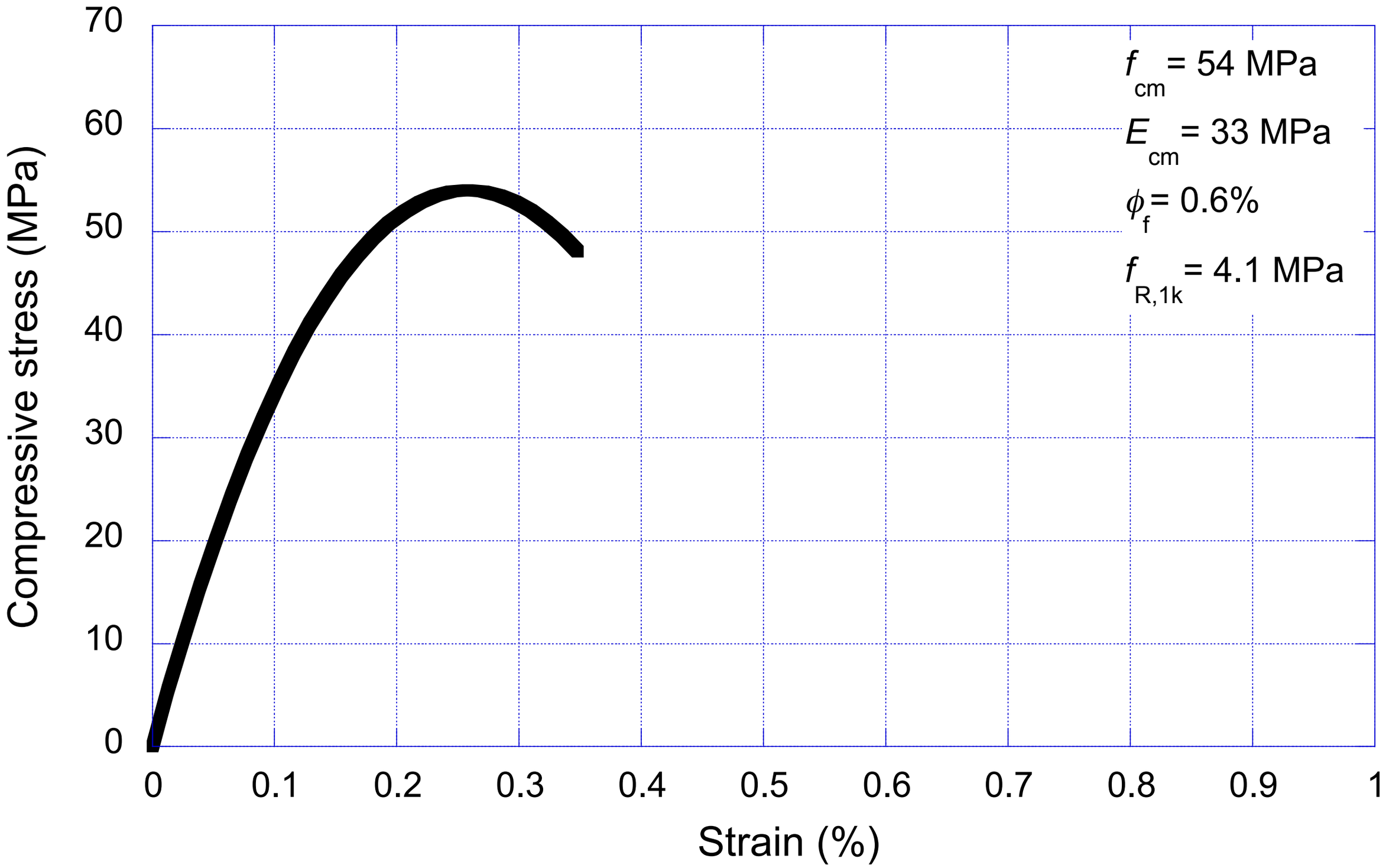


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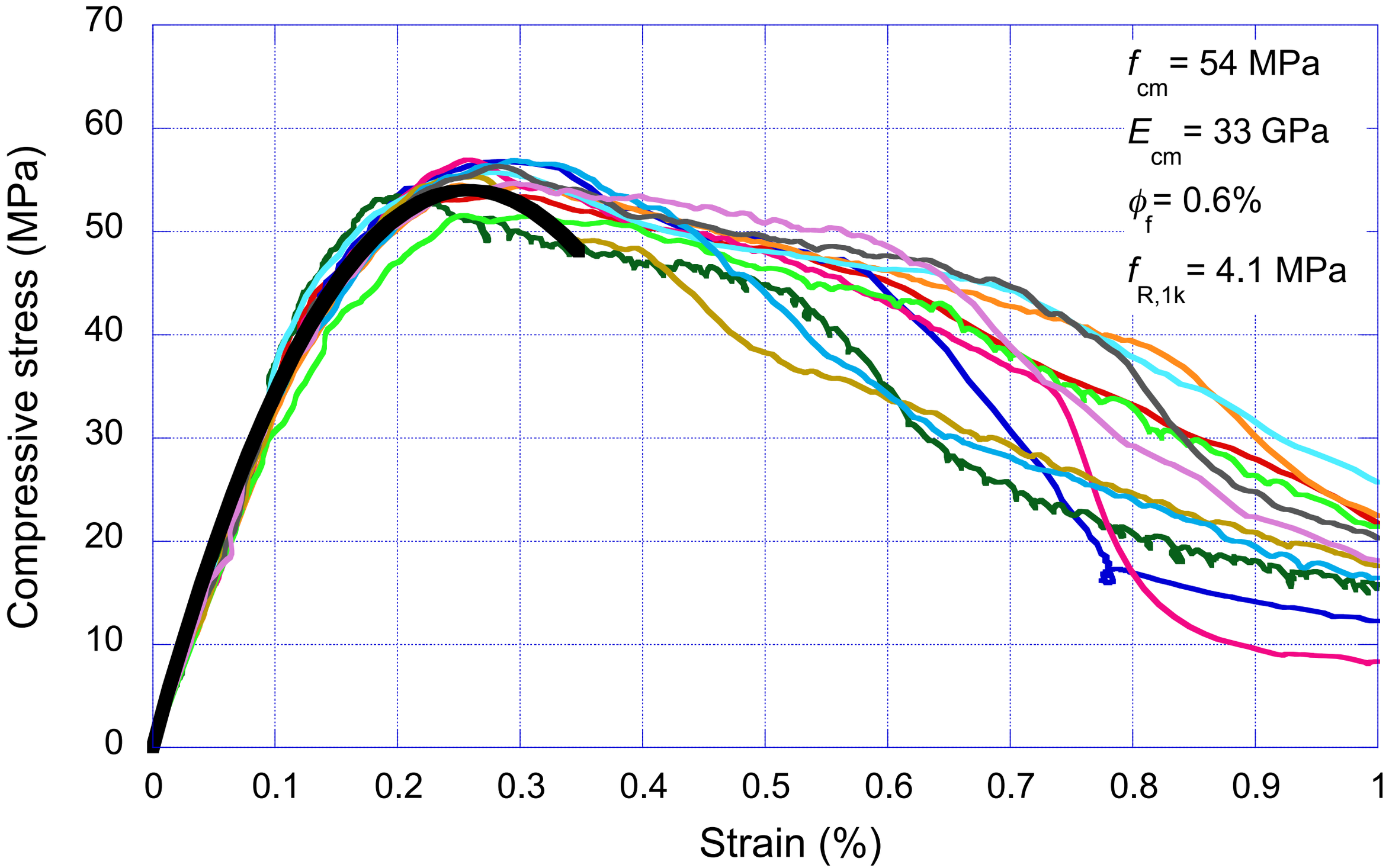


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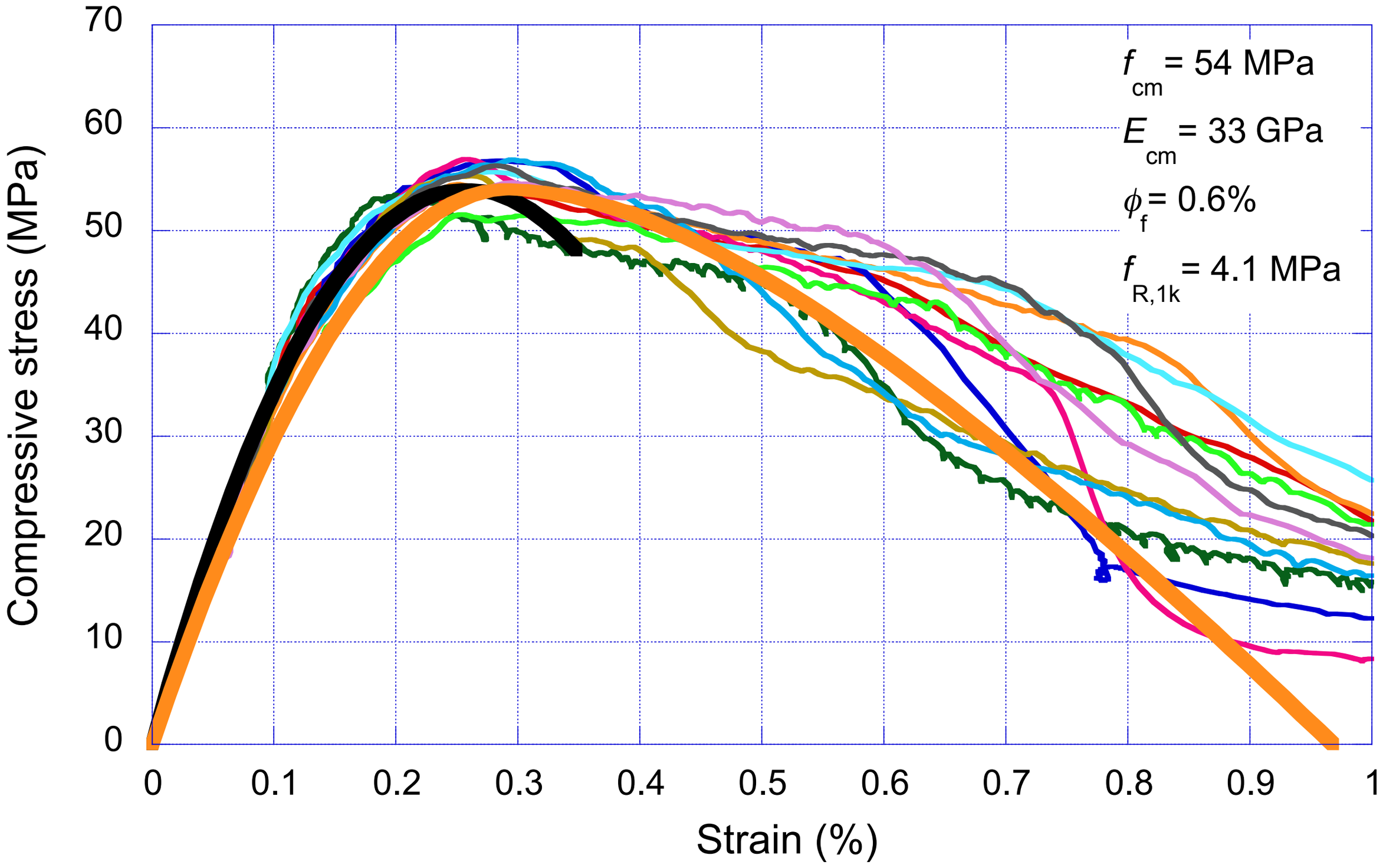


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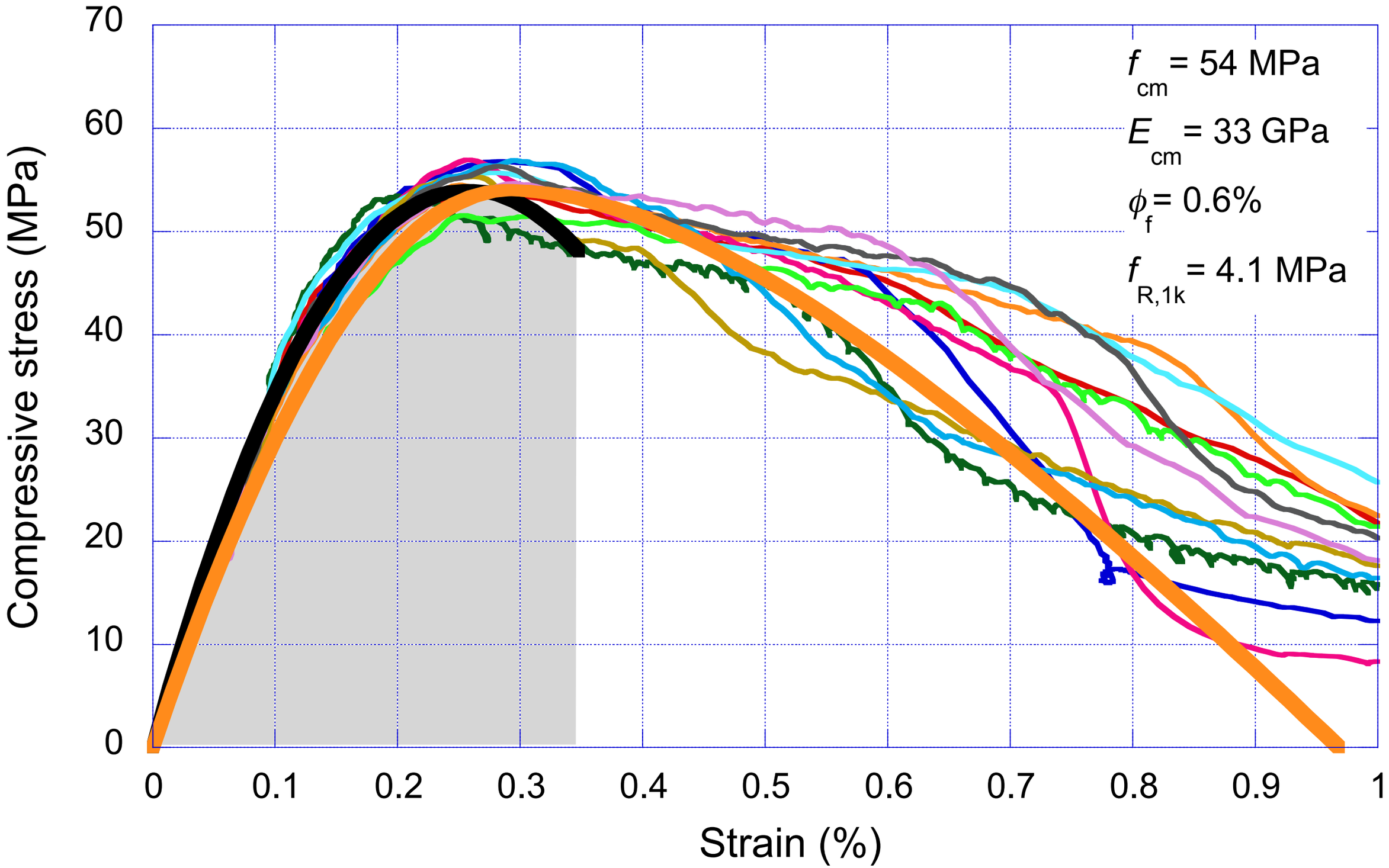


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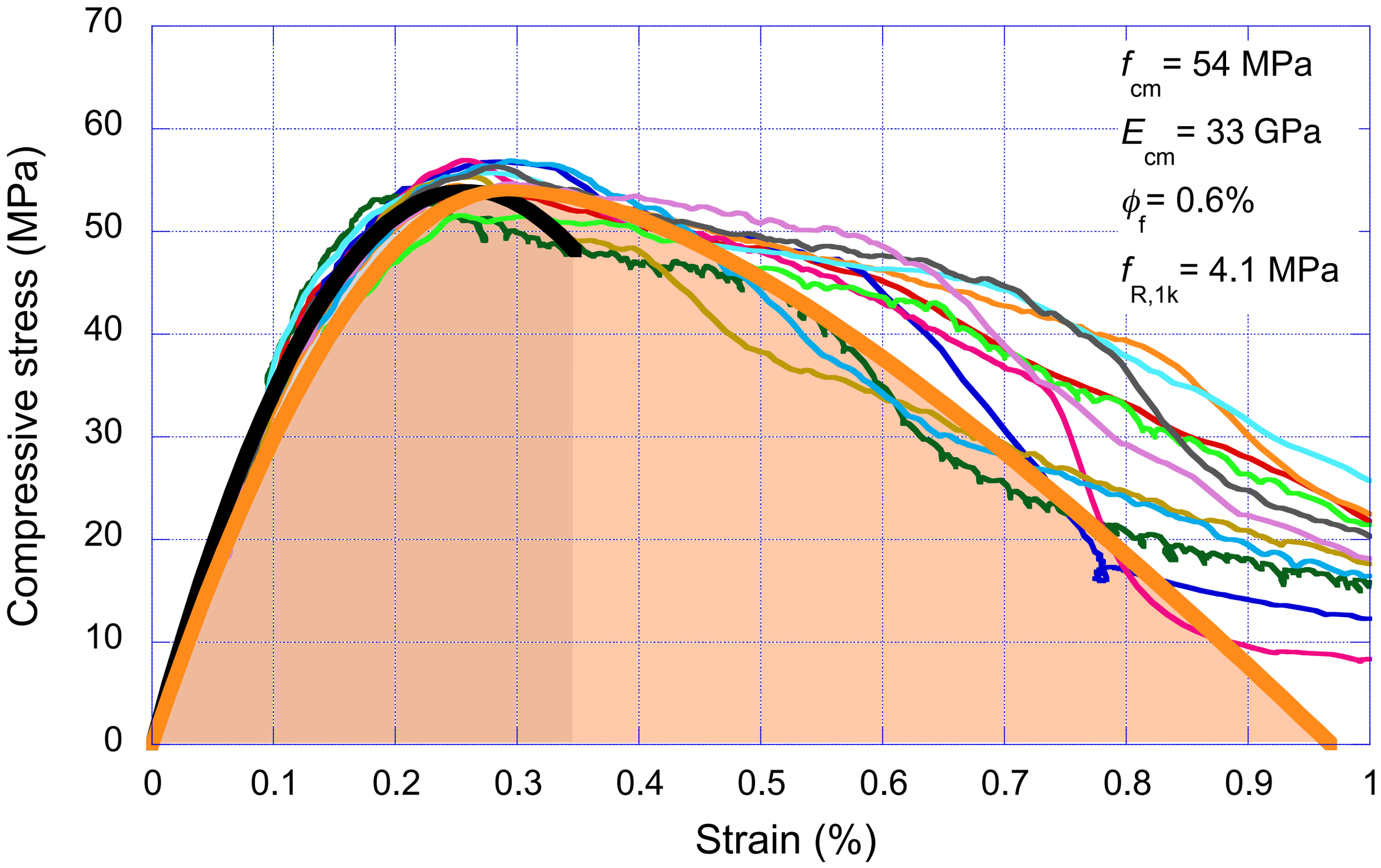


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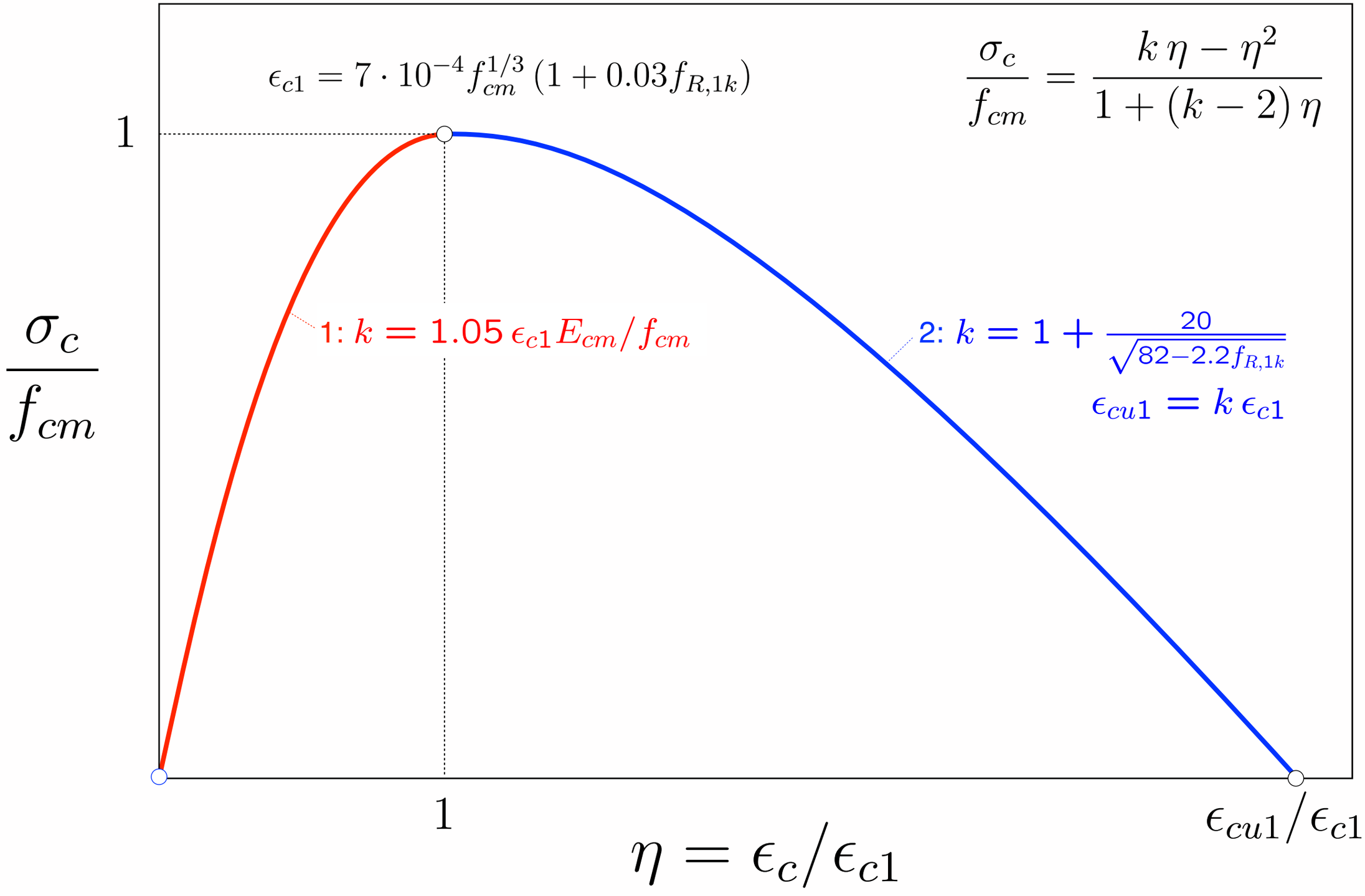


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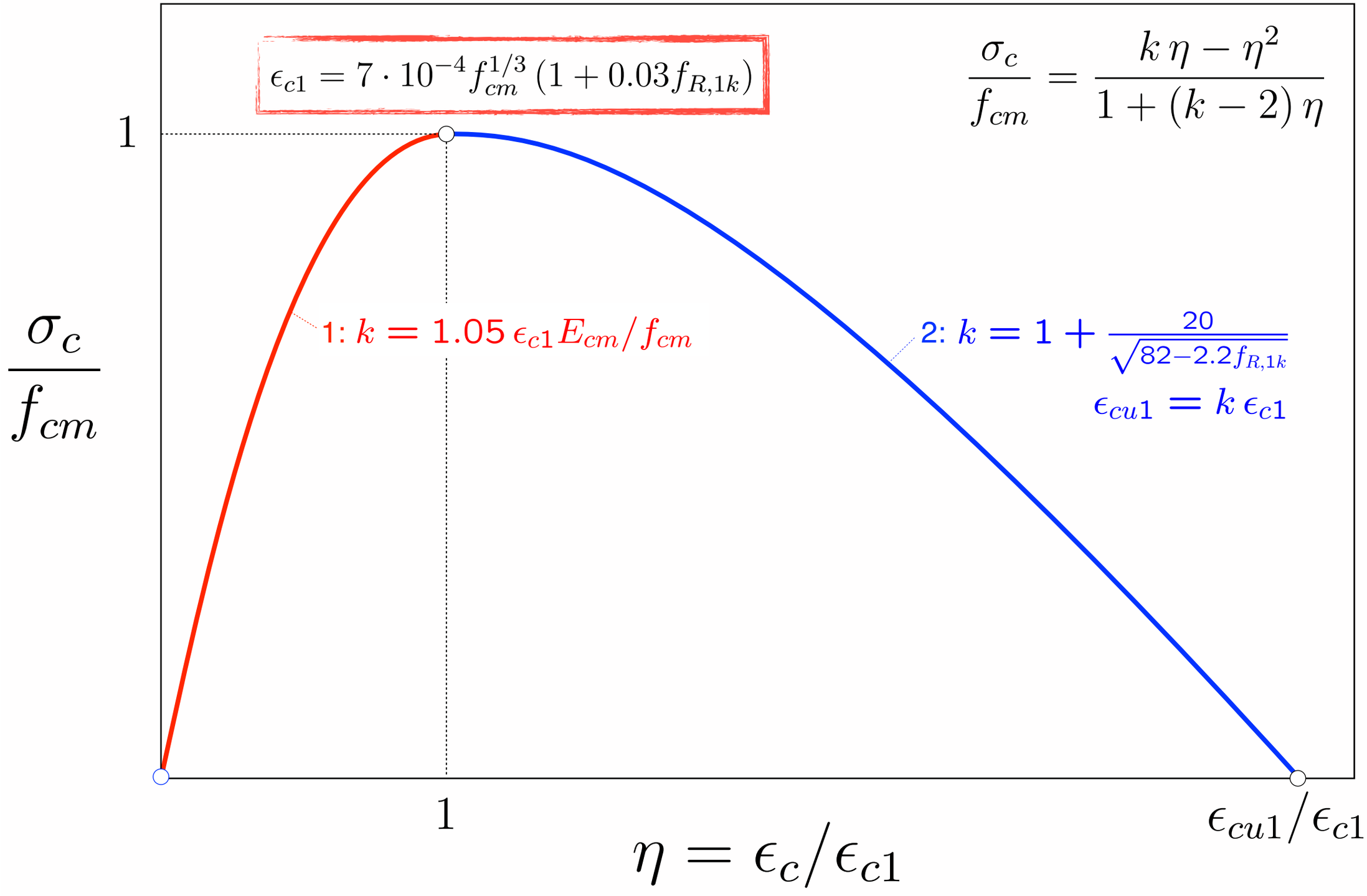


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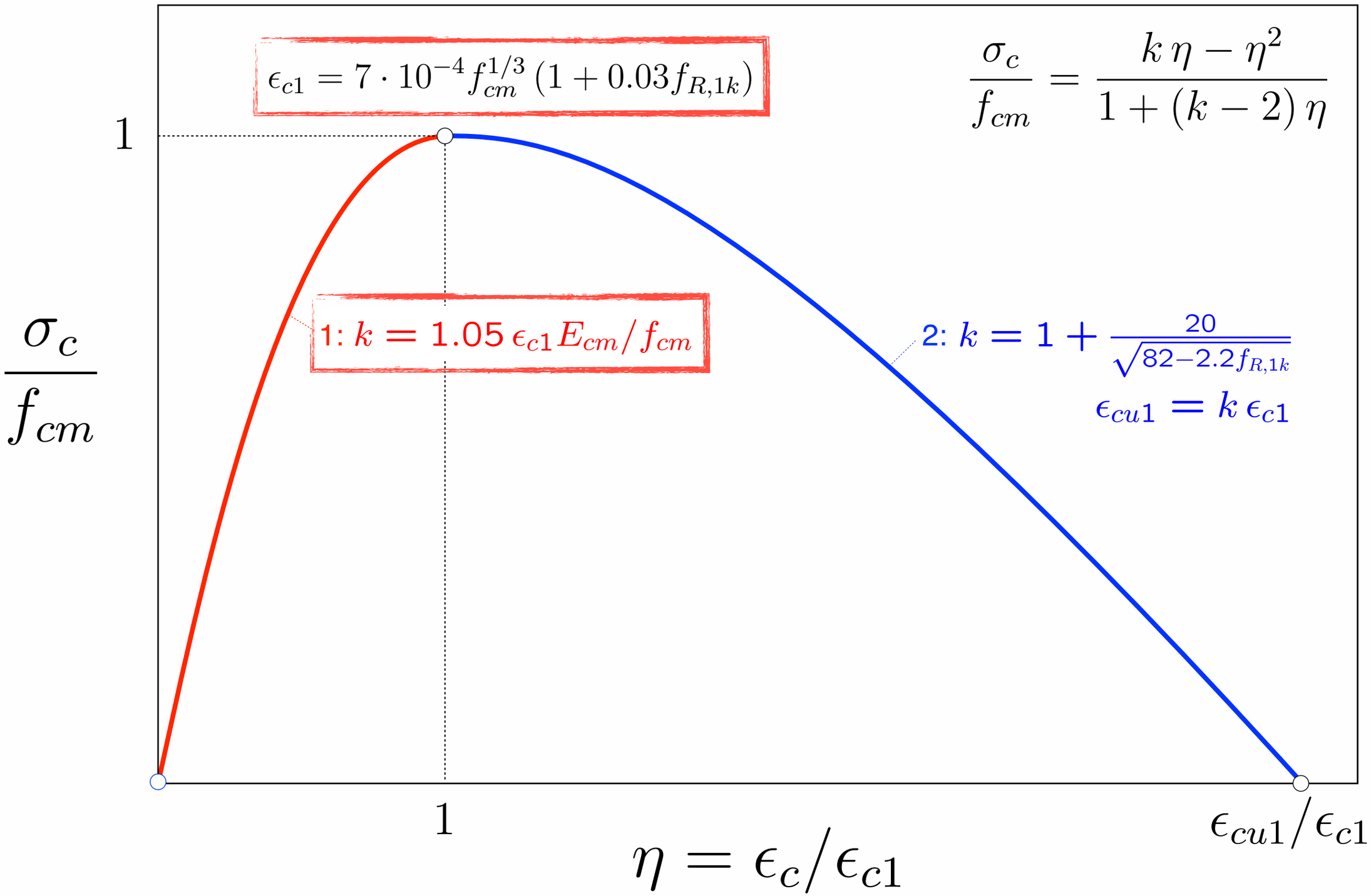


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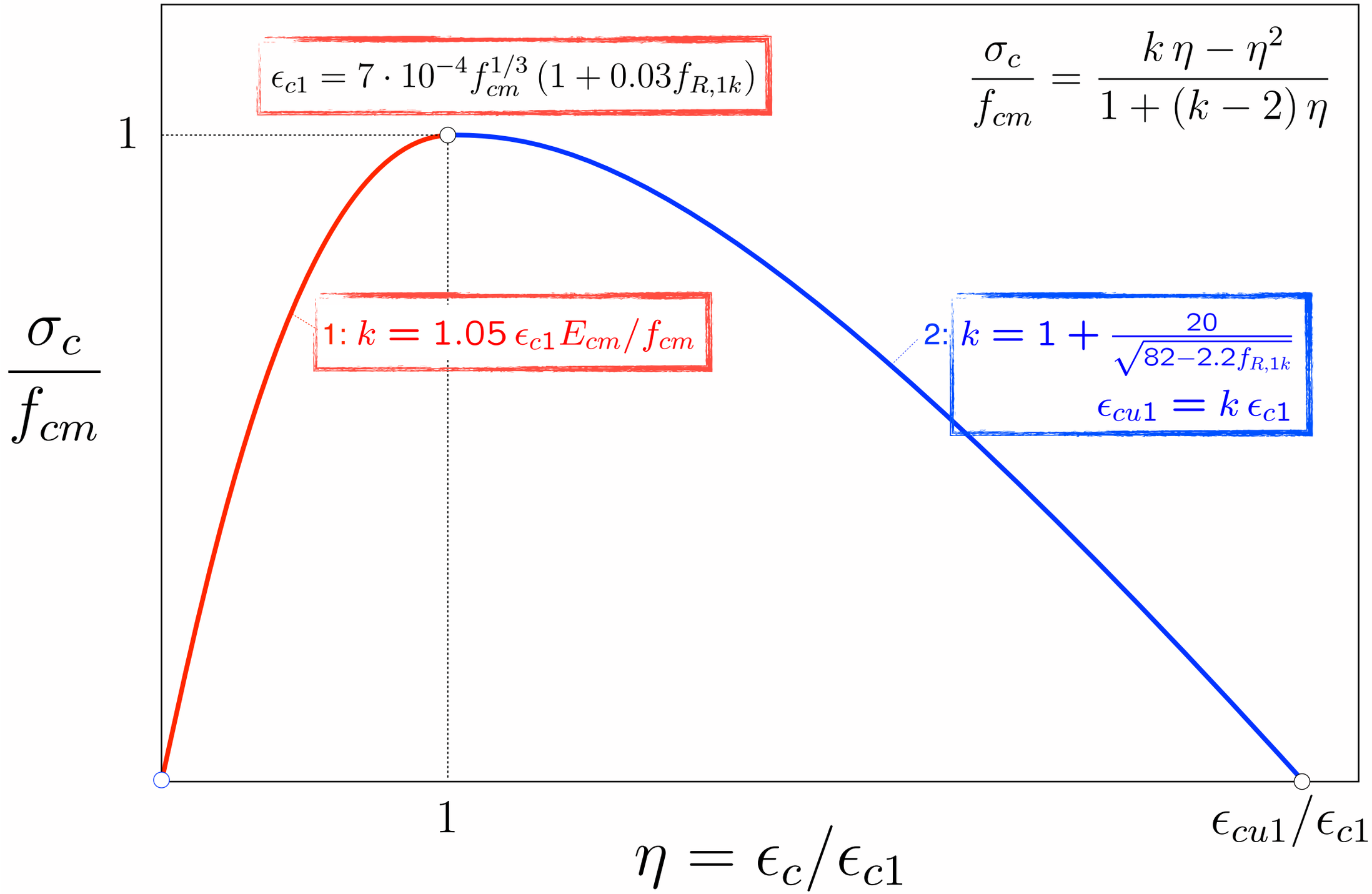


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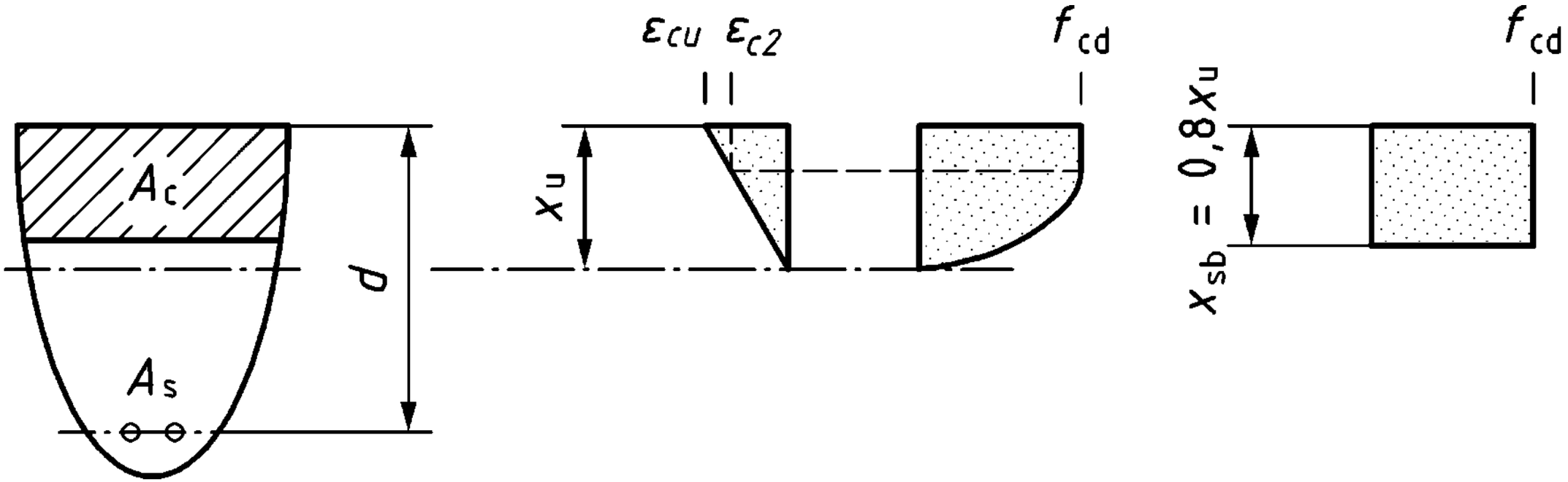


a) b) c) d)

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

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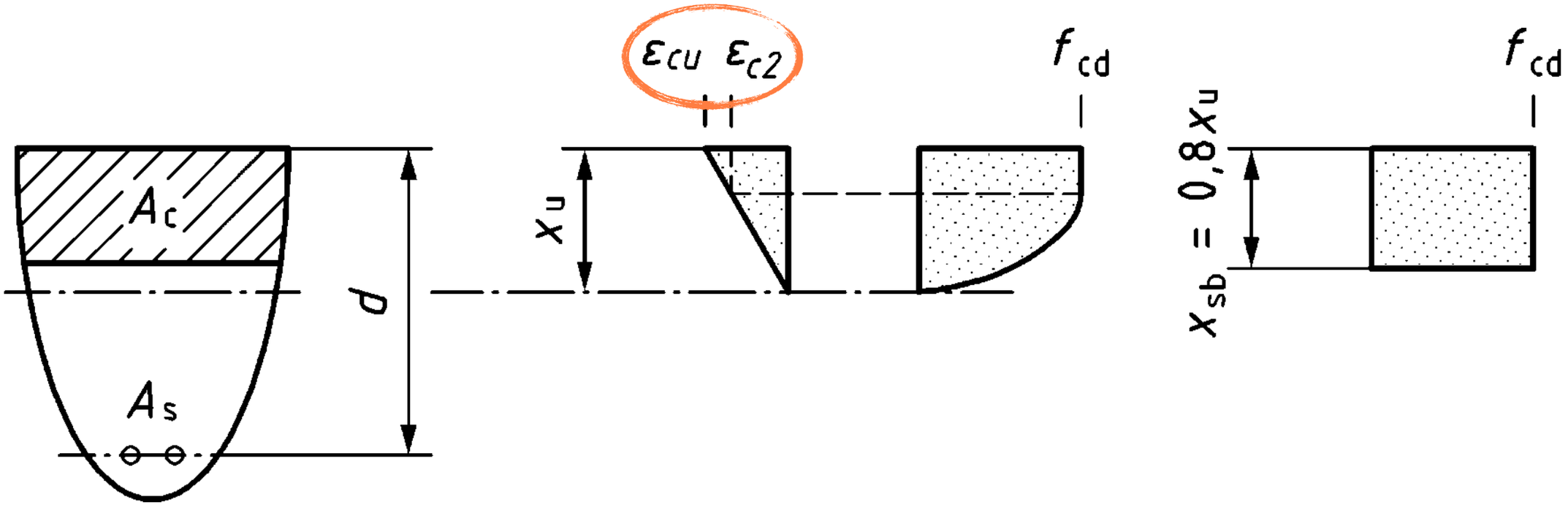


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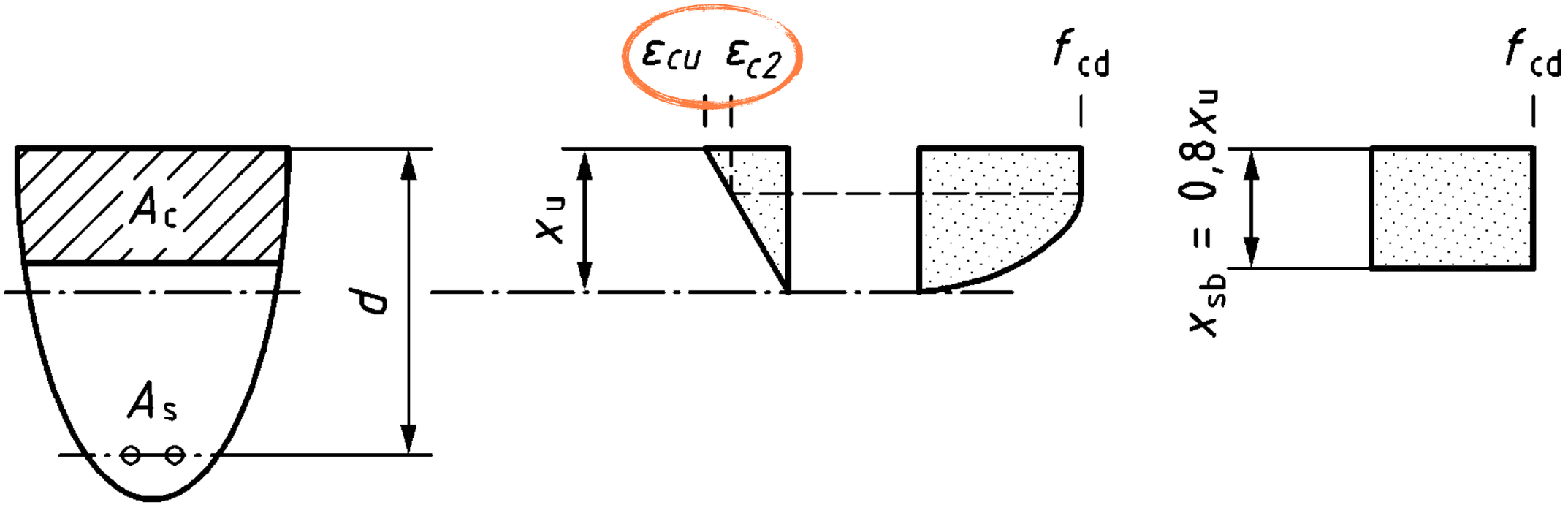


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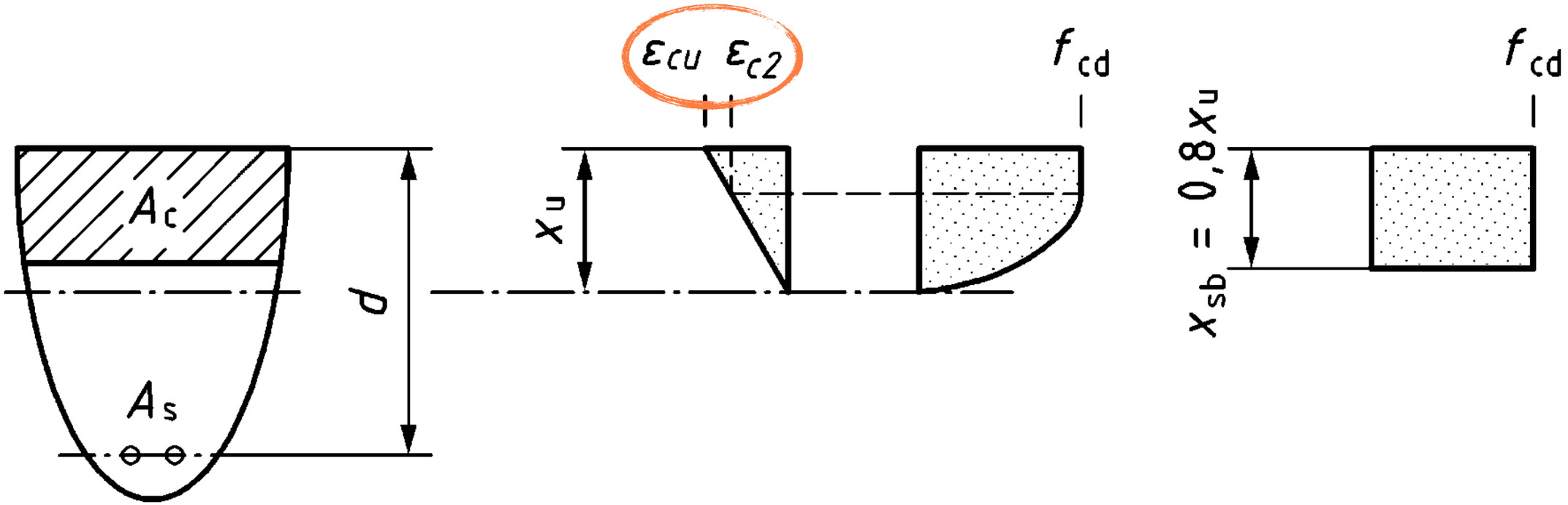


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"The stress distribution according to Formula (8.4) may be modified for SFRC by applying $\epsilon_{c2} = 0.0025$ and $\epsilon_{cu} = 0.006$."

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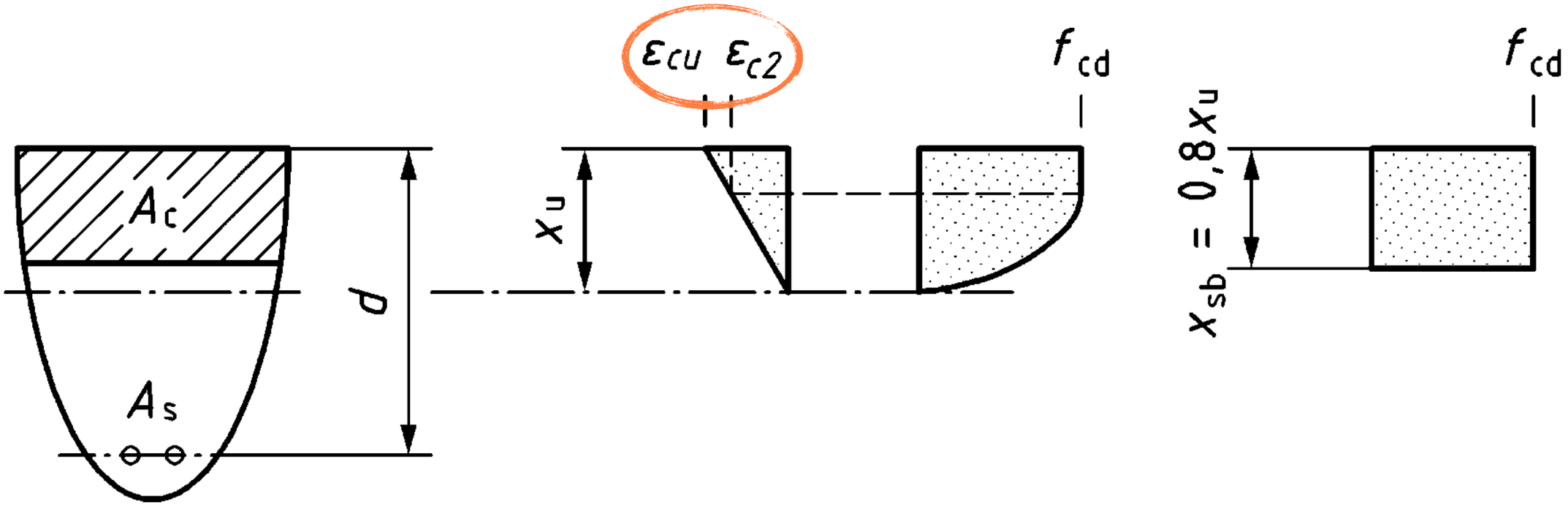


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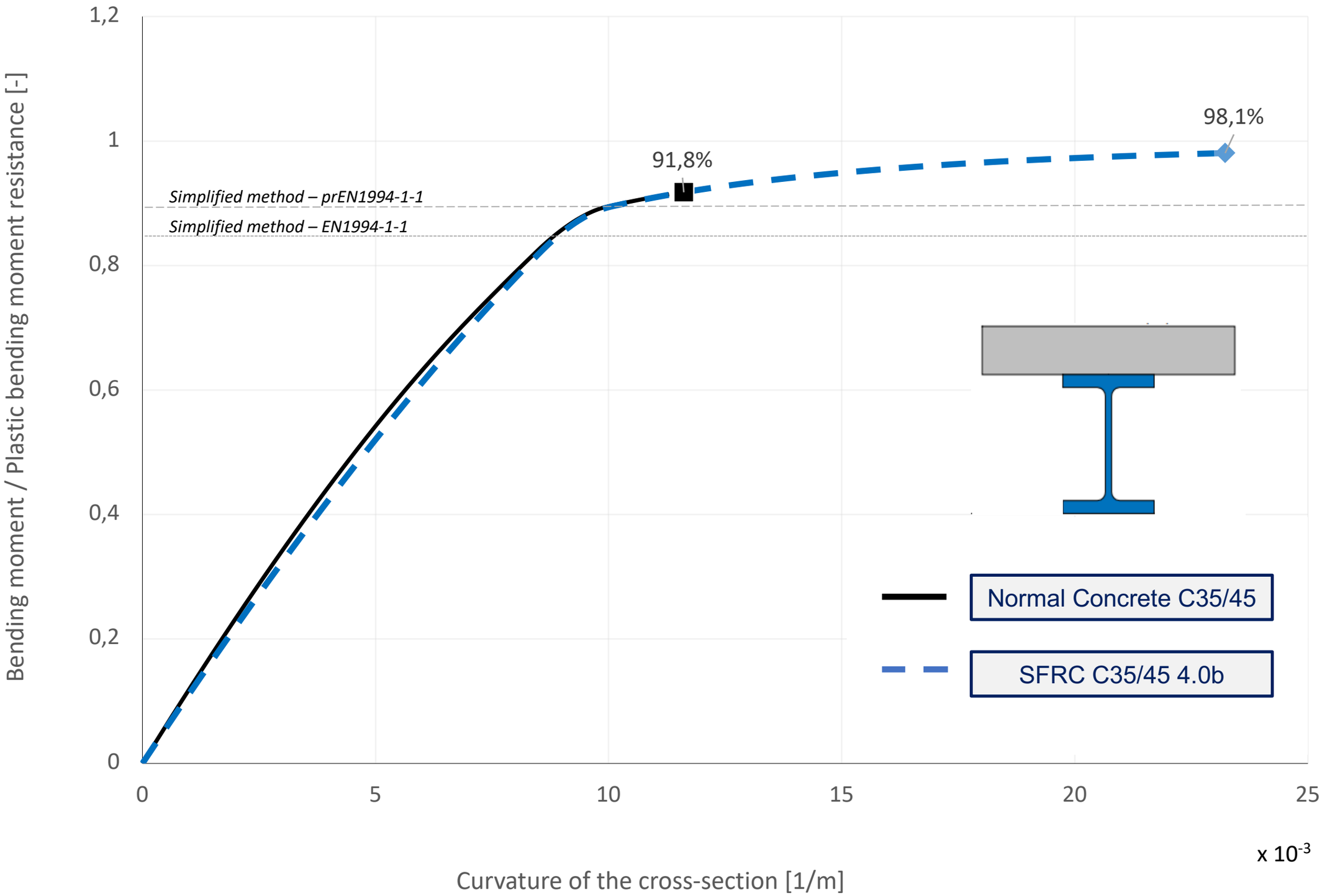


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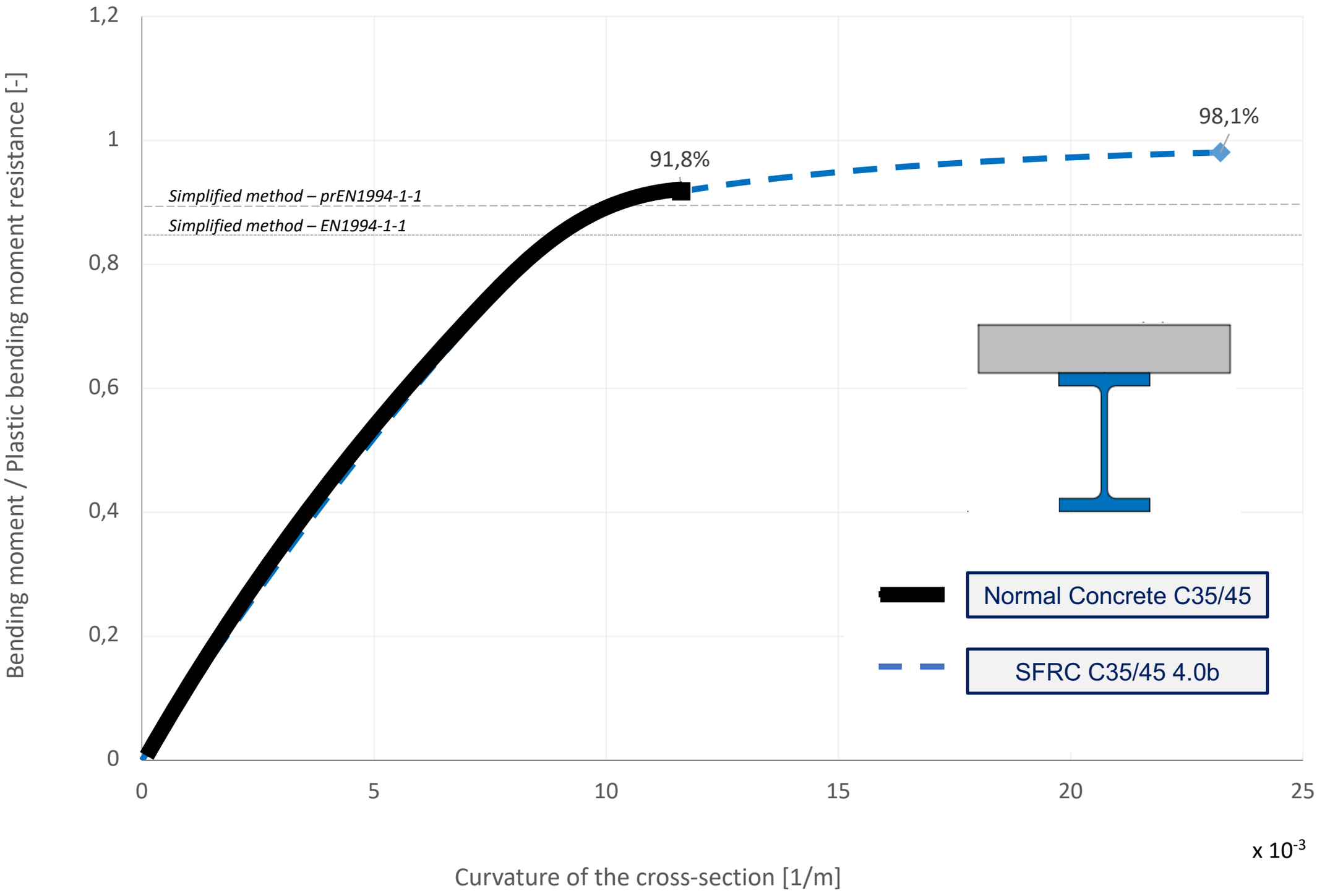


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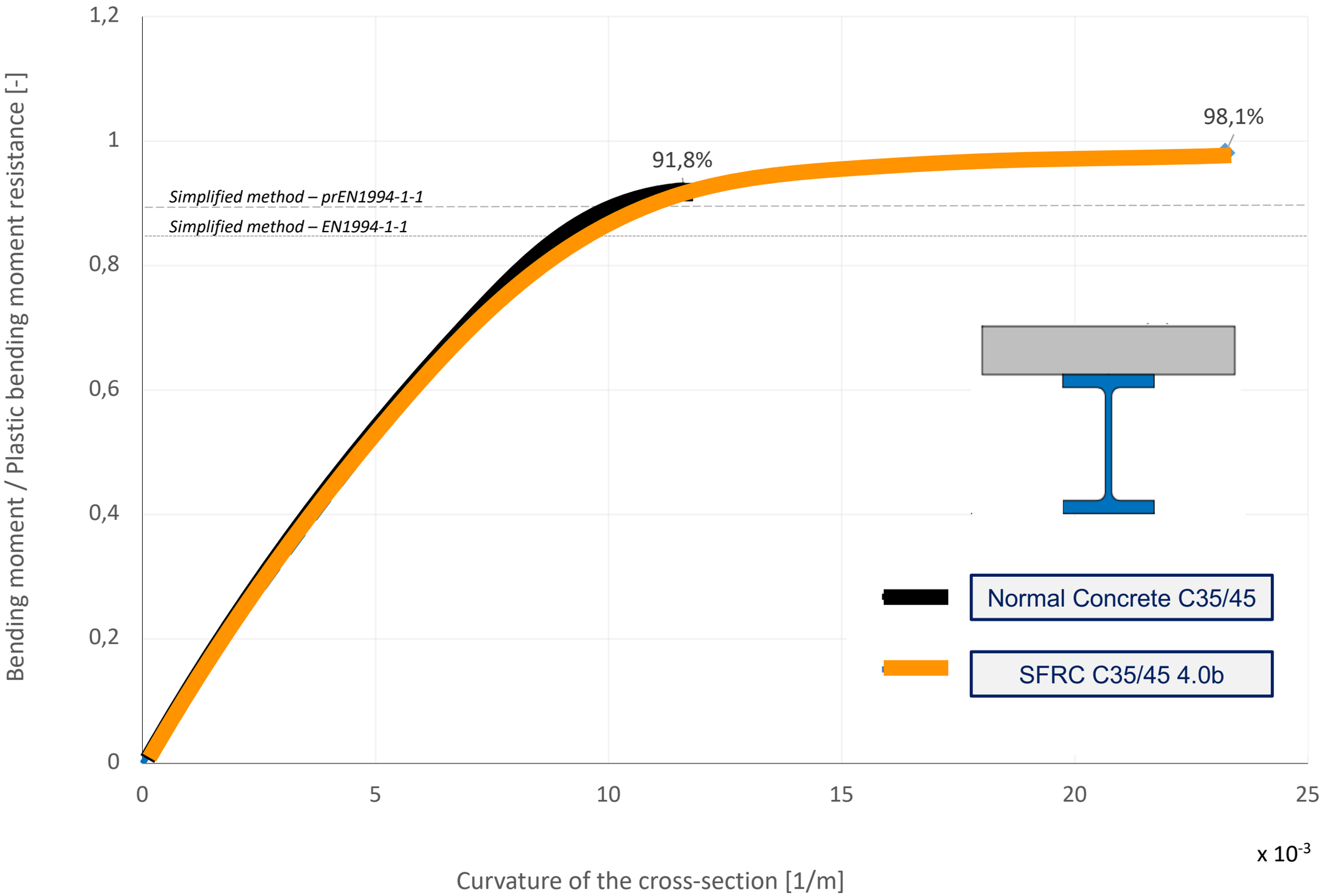


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# 5. Conclusions

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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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# References

Disponible en **www.hormigonyacero.com**

Hormigón y Acero 2023; 74(299-300):187-198
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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# References

DOI: 10.1002/stab.202200070

Riccardo Zanon, Markus Schäfer, Gonzalo Ruiz, Ángel De La Rosa, Qingjie Zhang

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

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# Compressive behavior of SFRC in new EC2, Annex L

Thanks for your attention




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