

Shot No.1

Czech and Murano glass through the eyes of the glass fusing technologist

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Presentation:

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typical compositions of crystal glasses

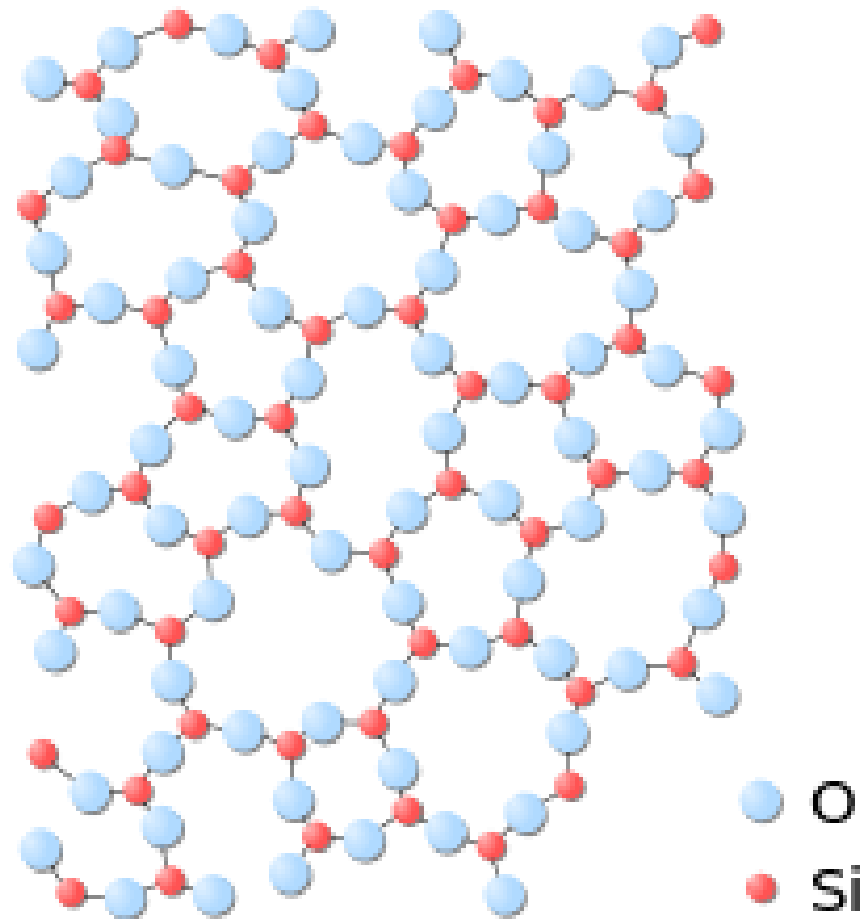
OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
SiO ₂	70,5	76,03	75,85	68,0	74,5
Al ₂ O ₃	0,68		0,67	0,0	4,0
Na ₂ O	17,2	10,18	9,67	10,0	16,0
K ₂ O	2,93	6,67	7,70	0	7,0
CaO	4,88	6,70	5,6	2,0	8,0
MgO	1,81			0,0	4,0

The influence of SiO₂ on the basic glass properties

OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
SiO ₂	70,5	76,03	75,85	68,0	74,5

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The basic glass structure - only SiO₂
Crystal lattice is not arranged - that is a basic quality of glass



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The content of monovalent oxides in monitored glass compositions

OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
Na ₂ O	17,2	10,18	9,67	10	16
K ₂ O	2,93	6,67	7,70	0	7,0
SUMA Na+K	20,13	16,85	17,37		

High content of Na₂O in Murano glass

OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
SiO ₂	70,5	76,03	75,85	68,0	74,5
Al ₂ O ₃	0,68		0,67	0,0	4,0
Na ₂ O	17,2	10,18	9,67	10,0	16,0
K ₂ O	2,93	6,67	7,70	0	7,0
CaO	4,88	6,70	5,6	2,0	8,0
MgO	1,81			0,0	4,0

Influence of Na₂O on glass properties

oxid	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
				min	max
Na ₂ O	17,2	10,18	9,67	10,0	16,0

Significantly extends the glass processing interval

The glassmaker can shape the product for a long time

But they produce fewer products because glass is "long"

High content of K₂O in Czech crystals

OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
SiO ₂	70,5	76,03	75,85	68,0	74,5
Al ₂ O ₃	0,68		0,67	0,0	4,0
Na ₂ O	17,2	10,18	9,67	10,0	16,0
K ₂ O	2,93	6,67	7,70	0	7,0
CaO	4,88	6,70	5,6	2,0	8,0
MgO	1,81			0,0	4,0

The biggest difference between Murano and Czech crystal

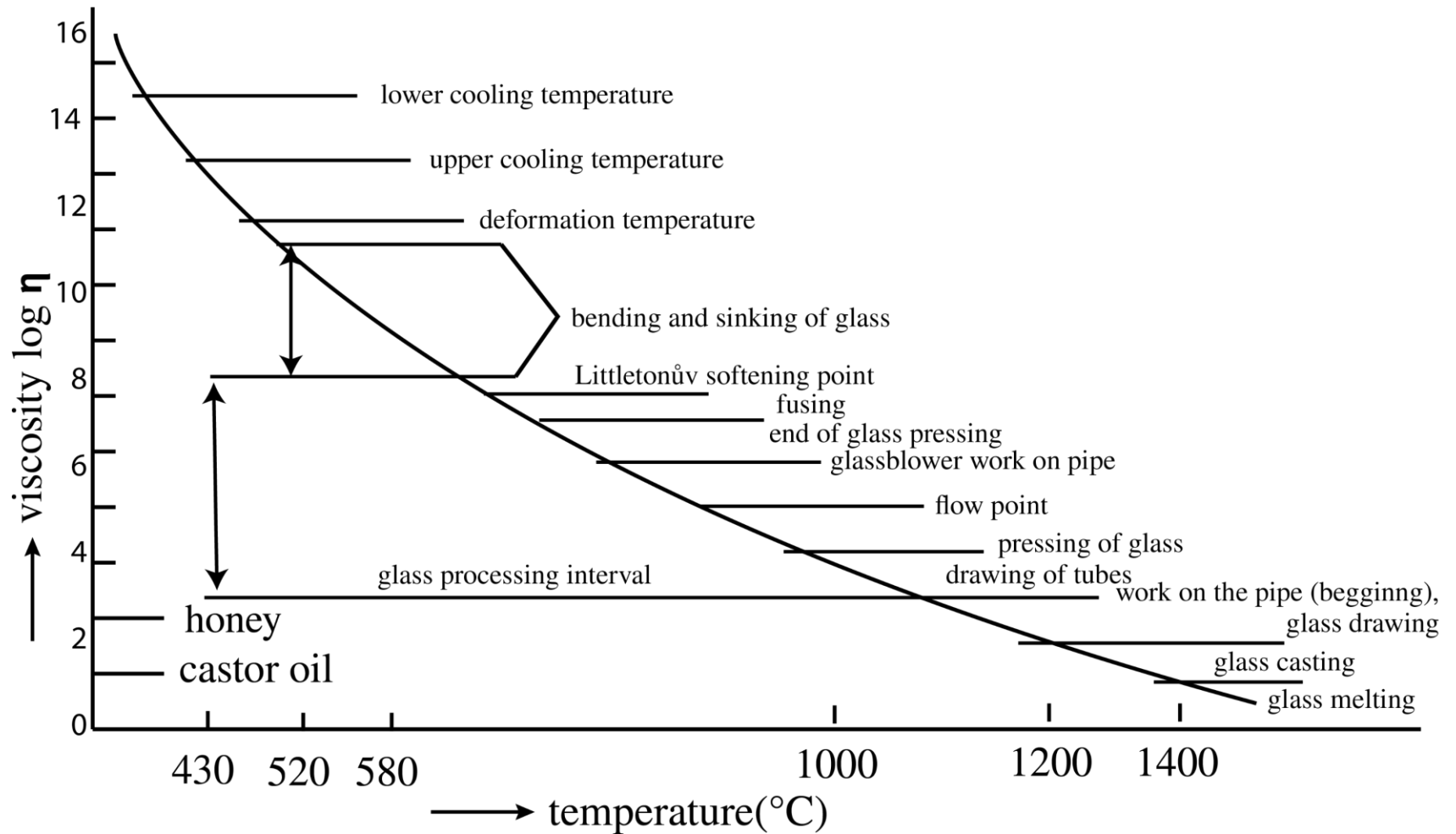
oxid	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
				min	max
K2O	2,93	6,67	7,70	0,0	7,0

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The influence of bivalent elements on the glass properties - Ca and Mg

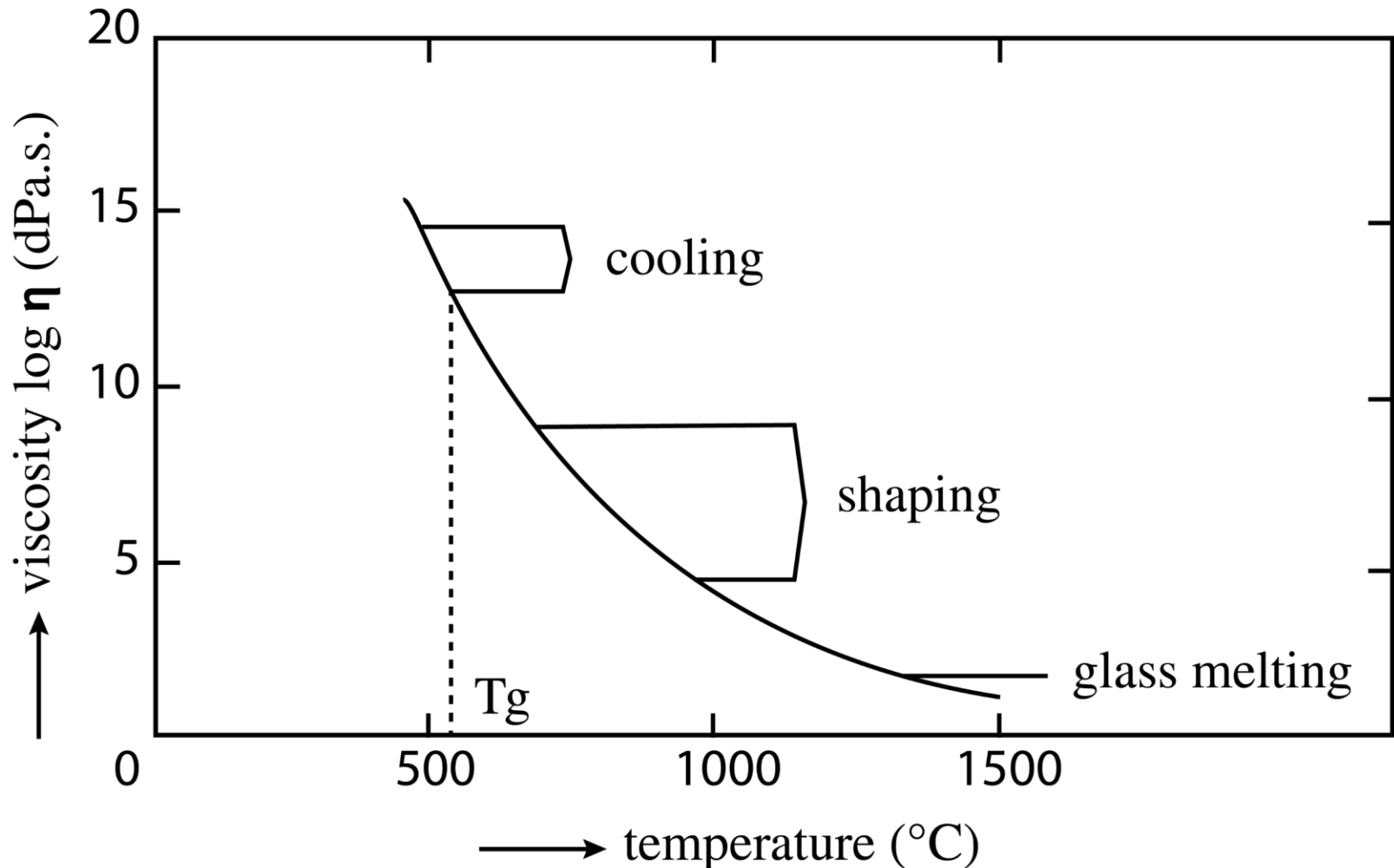
OXID	MURANO	AJETO	ŠVÁCHA	RANGE OF	CRYSTAL
	ITA	CZ	CZ	MIN	MAX
CaO	4,88	6,70	5,60	2,00	8,00
MgO	1,99	0,00	0,00		
SUMA Ca+Mg	6,87	6,70	5,60		

Viskozitní křivka zpracování skla v závislosti na teplotě zpracování

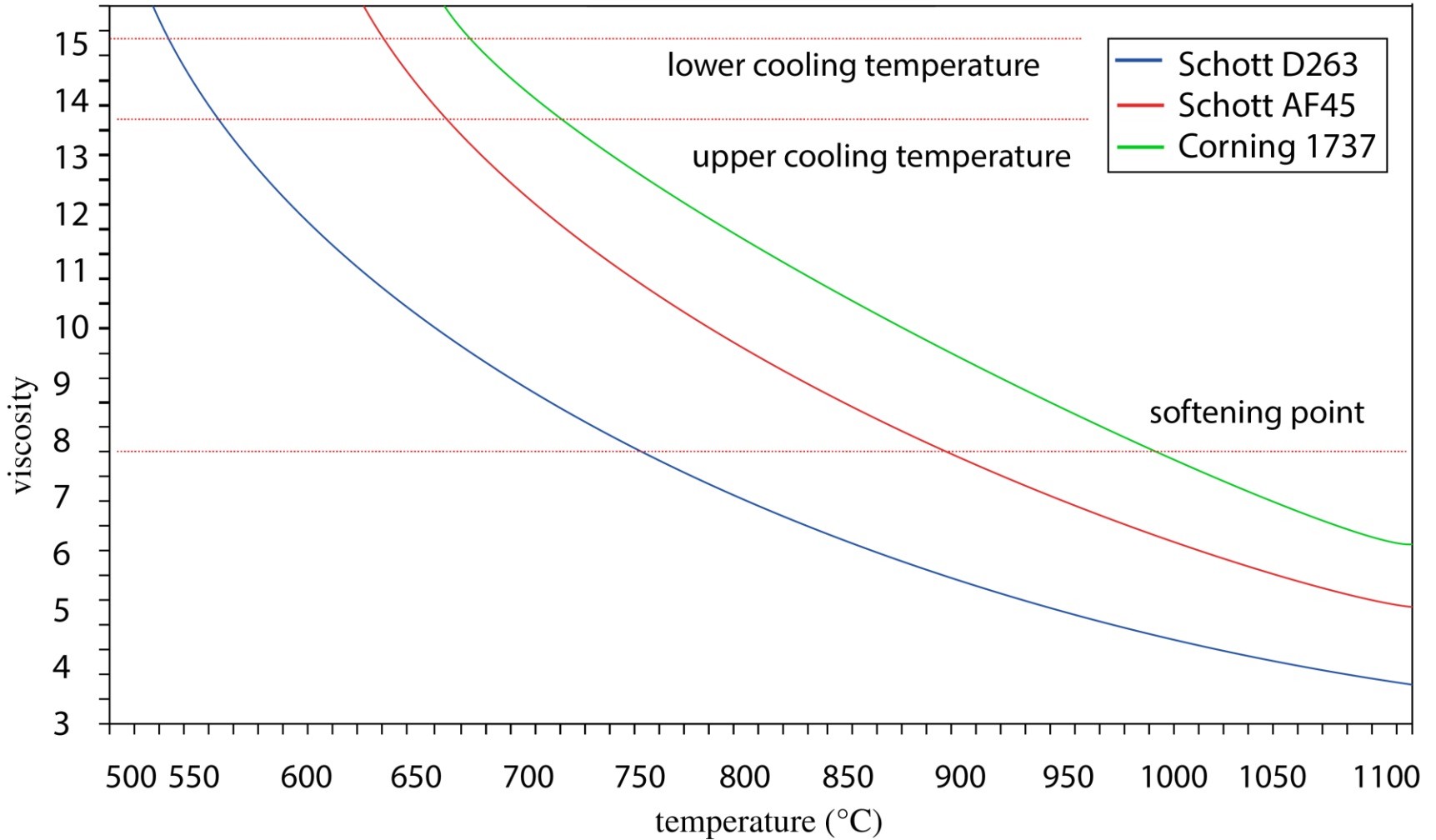


Main technological sections of the glass viscosity curve

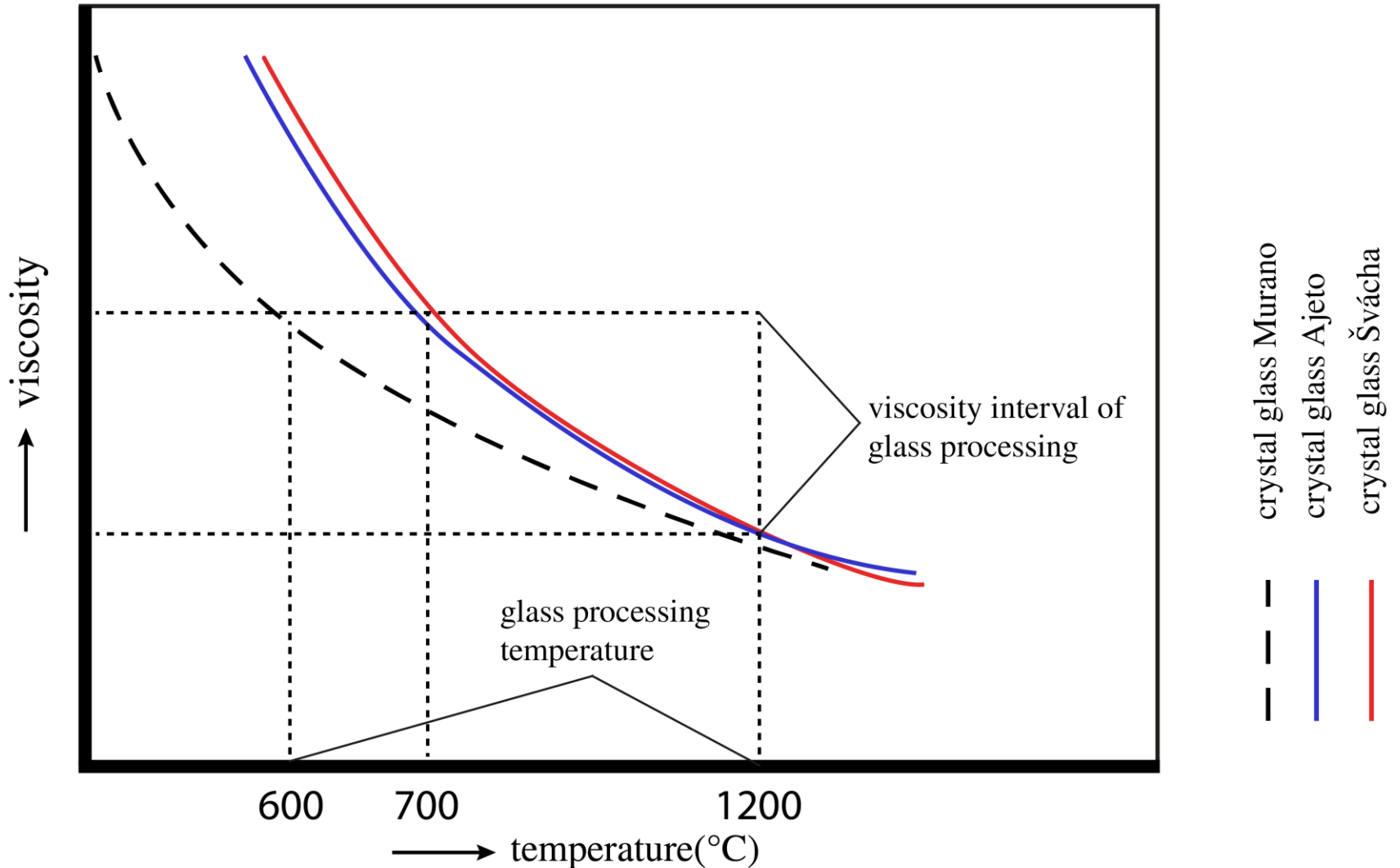
Temperature dependence of glass viscosity



we can see an example of a special glass



Viscosity graph of Murano and Bohemian crystal



Thank you for your attention
Do you have any questions?

