

AzuRe166



Descrição: Azulejo do século XVIII (1700-1720); Origem: Lisboa.

Amostras: Fragmentos, uma secção semi-polida e uma amostra de chacota moída em depósito no *Museu Nacional do Azulejo* em Lisboa.

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 - ✓ Porosimetria de mercúrio
- **Caracterização Química/Mineralógica**
 - ✓ Análise por SEM/EDS
 - ✓ Análise por XRD

AzuRe166





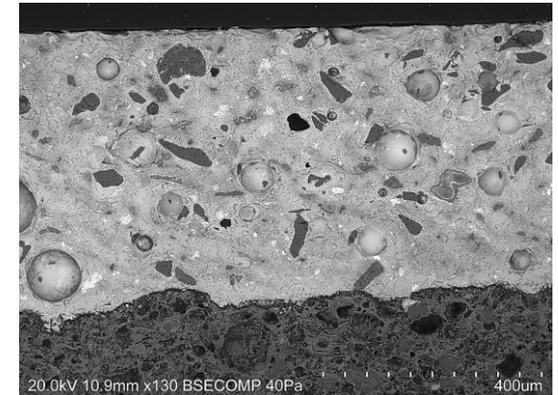
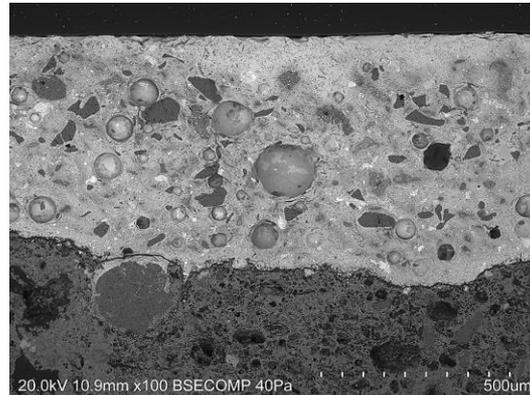
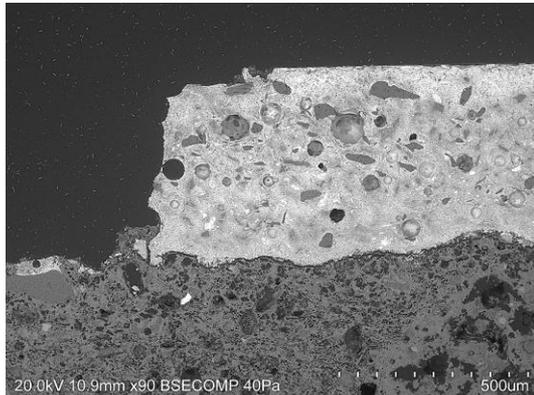
Azulejo com falhas de vidro a partir das arestas.



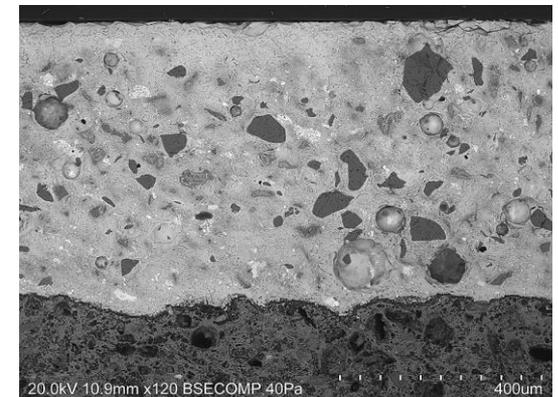
- Espessura do Azulejo = 14 mm



Chacota amarelada com grandes poros alongados e circulares; vazios alongados e inclusões.

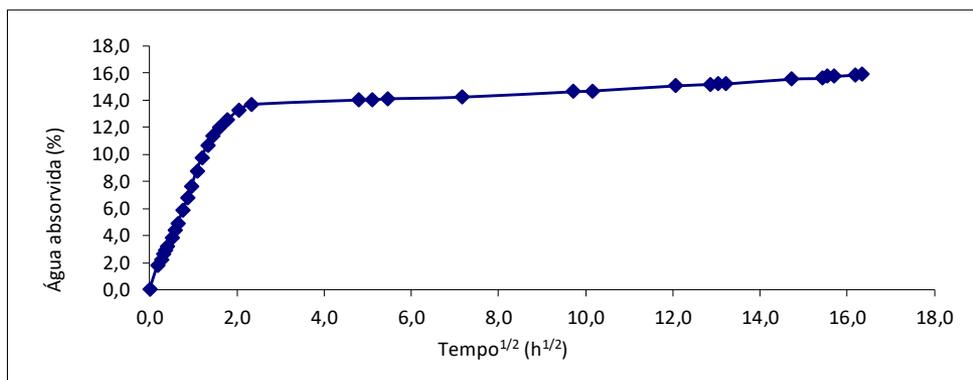


- Observa-se craquelé.
- Espessura do Vidrado = 570 μm



Equipamento: Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

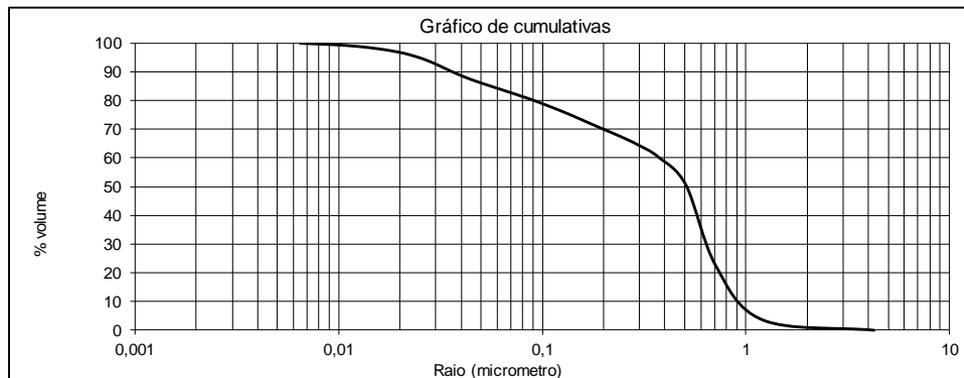
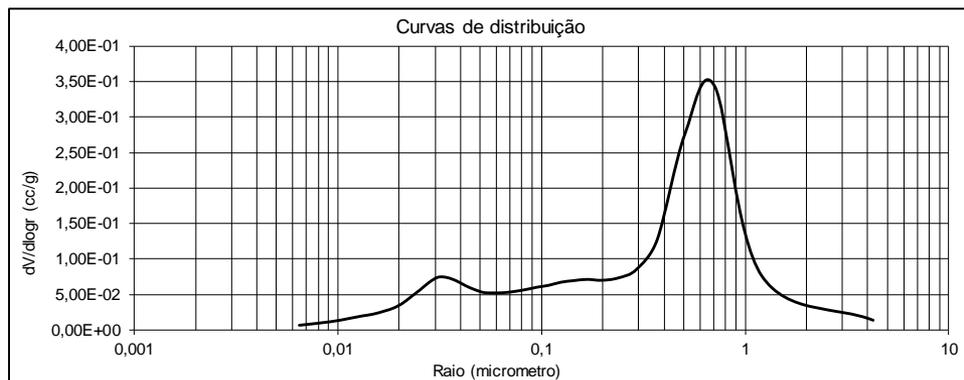
Curva de Absorção de Água (Chacota)



Massa volúmica real (kg/m³)	2674
Massa volúmica aparente (kg/m³)	1665
Porosidade aberta (vol %)	40,1
Coefficiente de capilaridade (kg/m²/h^{1/2})	1,7
Teor máximo de água (%)	24,3

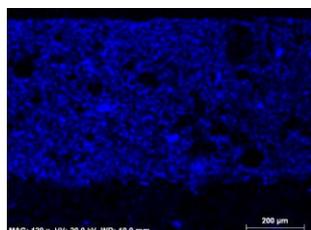
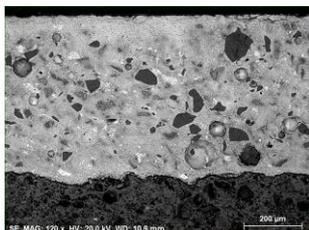
Procedimento: baseado na norma NP EN-13755.

Curvas de Porosimetria (Chacota)

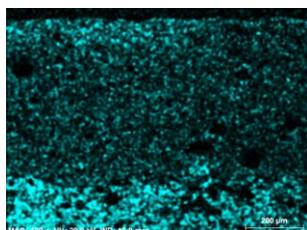


Procedimento: baseado na norma ASTM D4404-84.

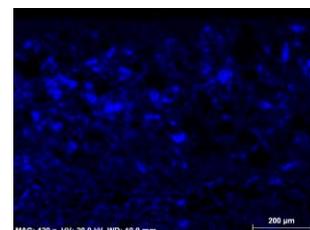
Equipamento: Porosímetro Quantachrome Autoscan



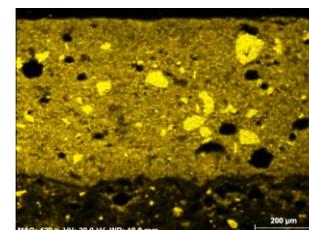
Na



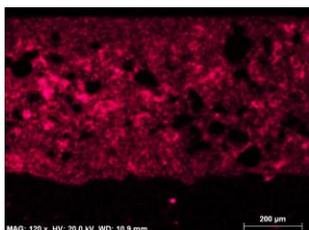
Mg



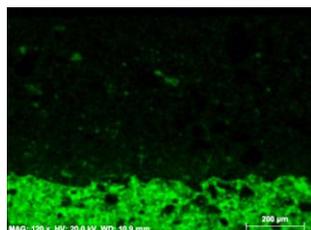
Al



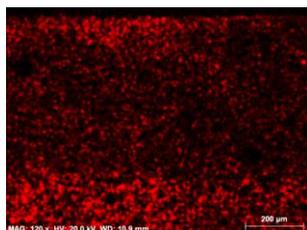
Si



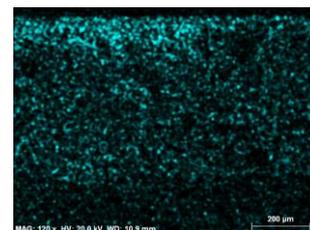
K



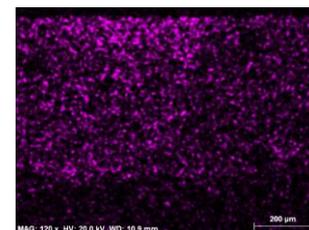
Ca



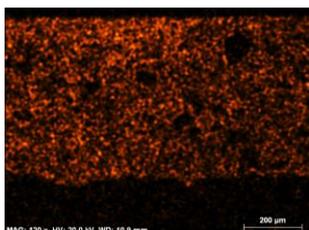
Fe



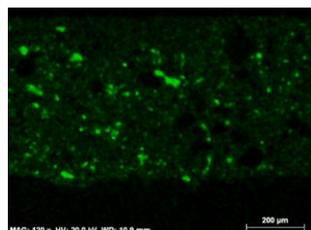
Co



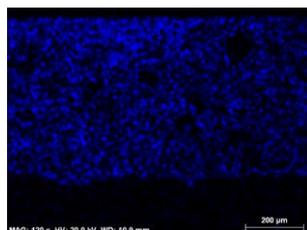
Ni



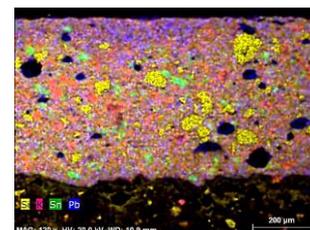
As



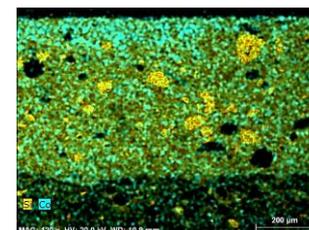
Sn



Pb



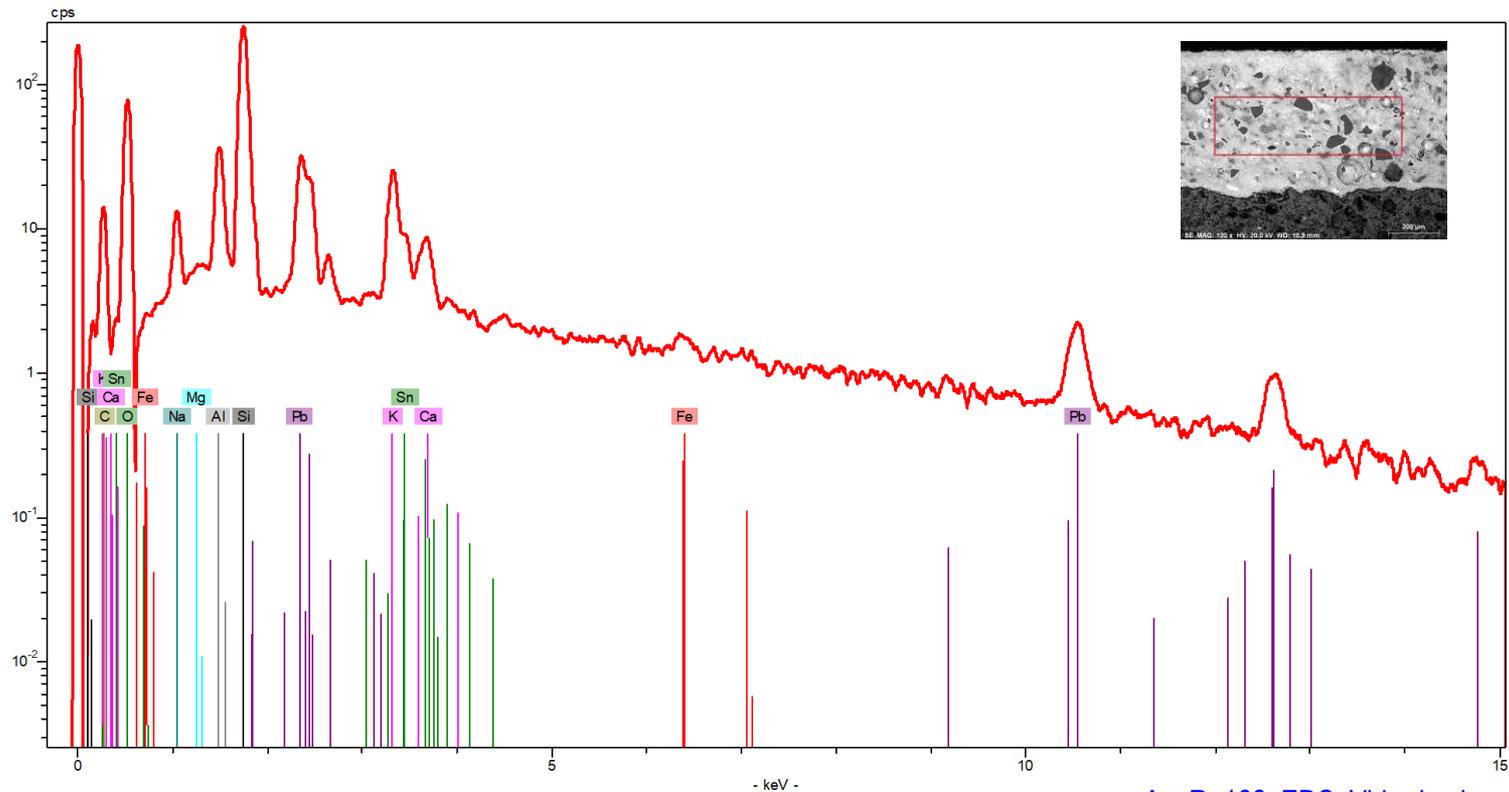
Combinação
Si_K_Sn_Pb



Combinação
Si_Co

Equipamento: Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

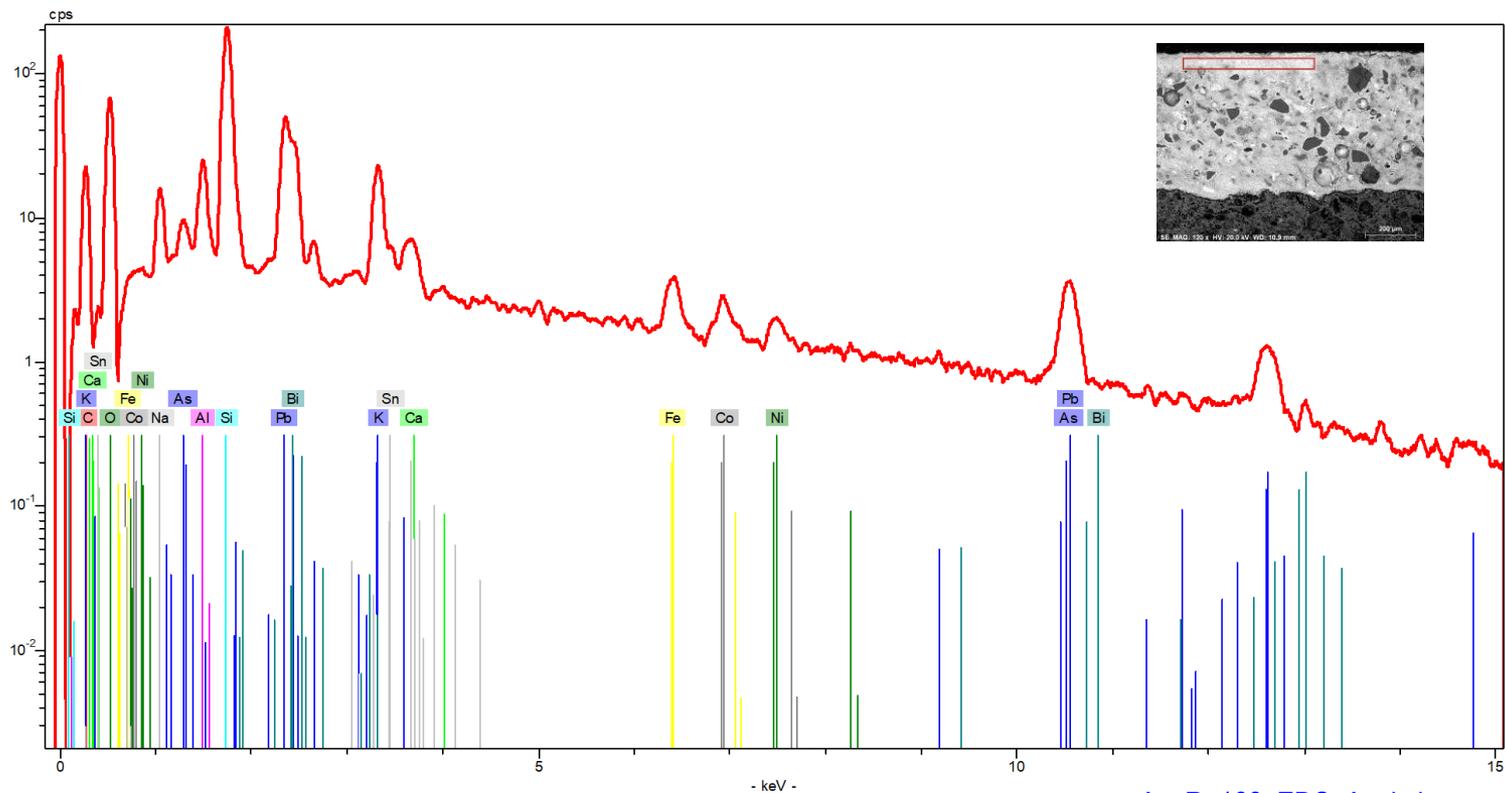
VIDRADO BRANCO



[AzuRe166_EDS_Vidrado.xls](#)

Equipamento: Microscópio eletrônico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

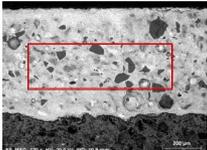
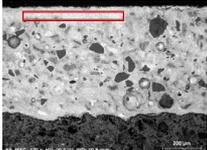
PIGMENTO AZUL



[AzuRe166_EDS_Azul.xls](#)

Equipamento: Microscópio eletrónico de varrimento HITACHI 3700N acoplado a um espectrómetro de energia dispersiva de raios-X Bruker Xflash 5010.

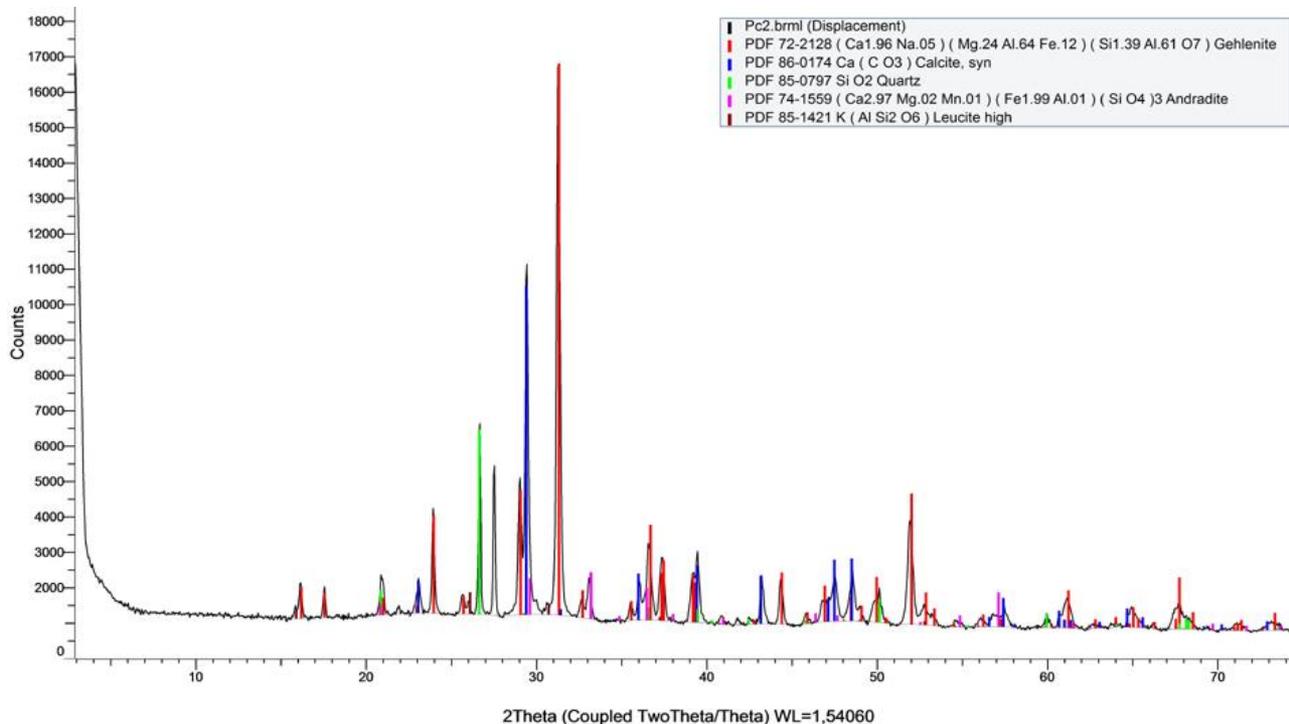
Composição química (% m/m)*

Área Analisada	Na	Mg	Al	Si	K	Ca	Fe	Co	Ni	As	Sn	Pb	Bi
 vidrado branco	3,02	0,23	6,39	42,31	8,84	1,36	0,48	--	--	--	7,34	30,04	--
 pigmento azul	3,75	--	3,98	33,02	7,09	1,10	2,21	1,46	0,90	3,04	3,45	37,29	2,70

* - Os valores apresentados na tabela correspondem às percentagens mássicas dos elementos detetados na amostra, não considerando o teor de oxigénio e normalizados a 100% ([ver aviso](#)).

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CHACOTA



Composição mineralógica semi-quantitativa (% m/m)

Quartzo	Gehlenite	Calcite	Andradite	Leucite
SiO ₂	Ca ₂ Al(AlSiO ₇)	CaCO ₃	Ca ₃ Fe ₂ (SiO ₄) ₃	K(AlSi ₂ O ₆)
13,52	54,32	24,68	5,93	1,56

Equipamento: Difrátometro de raio-X Bruker AXS-D8 Discover