

Patent list

Indian

Sl No	Patent ref no	Title & Inventors	Date of Submission	Application no/ Filing date	Granted
1.	Indian Patent :0022NF2016	Process for preparation of iron-doped alumino-phosphate glass using microwave energy in air atmosphere for heat absorbing application, Inventors: Ashis Kumar Mandal* and Ranjan Sen	27-01-2016	201611009089 16-03-2016	370058 Date: 23/06/2021
2.	Indian Patent : 0131NF2016	A process of producing borosilicate glass with OH content less than 70 ppm using microwave heating, Inventors: Ashis Kumar Mandal* and Ranjan Sen	11/11/2016	201711000056 02/01/2017	481750 13/12/2023
3.	Indian Patent : 0271NF2016	A method for effective utilization of tannery solid waste to develop usable glass product , Inventors: Mandal Ashis Kumar* , Halder Avik, Ramrakhiani Lata, Ghosh Sourja, Sen Ranjan	11-Nov-2016	201611041924 08-12-2016	435493 26/06/2023
4.	Indian Patent : 0199NF2019	A Method for safe disposal of arsenic rich sludge obtained from treatment of contaminated groundwater and its utilization in developing heat protective glass Inventors: Mandal Ashis Kumar* , Ghosh Sourja	14-Nov-2019	Application No. 202011056180 Date of filing 23.12.2020	
5.	Indian Patent 0134NF2022	A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy Inventors: Ashis Kumar Mandal, Pranesh Sengupta	01-Jul-2022	Application No. 202211041768 Date of filing 19.07.2022	
6.	Indian patent 0071NF2024	A process of developing glass foam utilizing waste glasses maximum upto 99%, Inventors: Ashis Kumar Mandal, Biplab Das	Submitted March 2024	Application no. 202411045190; 11 June 2024	

Foreign Patent

Sl No	Patent ref no	Title & Inventors	Country	Application no/ Date of filling	Granted with Date
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1.	0199NF2019WO (File No. F300A)	A Method for safe disposal of arsenic rich sludge obtained from treatment of contaminated groundwater and its utilization in developing heat protective glass Inventors: Mandal Ashis Kumar* , Ghosh Sourja	WO	PCT/IN2021/051196 Date: 22.12.2021	
2.	0199NF2019BD (File No. F300B)	A Method for safe disposal of arsenic rich sludge obtained from treatment of contaminated groundwater and its utilization in developing heat protective glass Inventors: Mandal Ashis Kumar* , Ghosh Sourja	Bangladesh	438/2021 Date: 22.12.2021	
3.	0199NF2019/CI (File No. F300C)	A Method for safe disposal of arsenic rich sludge obtained from treatment of contaminated groundwater and its utilization in developing heat protective glass Inventors: Mandal Ashis Kumar* , Ghosh Sourja	Chile	2023-1778. Date: 15/06/2023	
4.	0134NF2022/WO	A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy. Inventors: Ashis Kumar Mandal , Pranesh Sengupta	WO	PCT/IN2023/050687 Date: 14-Jul-2023	
5.	0134NF2022/BR	A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy. Inventors: Ashis Kumar Mandal , Pranesh Sengupta	BR (Brazil)	BR 11 2025 0009397 17-Jan-2025	
6.	0134NF2022/JP	A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy. Inventors: Ashis Kumar Mandal , Pranesh Sengupta	JP (Japan)	2025-502659 17-Jan-2025	
7.	0134NF2022/AU	A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy. Inventors: Ashis Kumar Mandal , Pranesh Sengupta	AU (Australia)	2023309390 29-Jan-2025	

8.	0134NF202 2/KR	<p>A process of glass melting in microwave heating using metallic crucible made up with platinum or its alloy.</p> <p>Inventors: Ashis Kumar Mandal, Pranesh Sengupta</p>	KR (Republic of South Korea)	2025-7005142 17-Feb-2025	
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