



ADCERAX
ADVANCED CERAMICS

PRODUCT CATALOGUE | 2026

Alumina Fiber Plug

Vacuum-Formed Ceramic Fiber Cones for Aluminium Casting Tap-Out and High-Temperature Sealing



Standard series: AT-AO-DT001 to AT-AO-DT020

PRODUCT OVERVIEW

A fit-sensitive, vacuum-formed sealing component

ADCERAX alumina fiber plugs are rigid, lightweight ceramic fiber shapes made by vacuum forming. The conical body is designed to seat against a matching tap-out bore, launder opening, sprue interface or furnace port. Standard sizes are available, while geometry, density, fiber grade and binder system can be reviewed for drawing-based production.



Representative forms: solid, rounded, tapered and hollow configurations

Product family	Vacuum-formed alumina-silica ceramic fiber plug / cone
Standard geometry	Conical and rounded plug forms; stepped, shouldered, hollow and drawing-based profiles by review
Material system	Alumina-silica ceramic fiber with selected organic and/or inorganic binders; exact formulation varies by grade
Typical appearance	Off-white, fibrous, rigid yet slightly compressible
Supply route	Standard item series or custom production from a drawing, sample or mating-bore dimensions
Primary selection factors	Fit geometry, density/hardness, temperature grade, metal or atmosphere, pressure and replacement cycle
Material naming “Alumina fiber plug” is the commercial product name. The standard family is a fiber composite rather than a dense, sintered alumina ceramic part. Confirm exact chemistry when a particular alloy, atmosphere or compliance requirement applies.	

MATERIAL AND GRADE OPTIONS

Select temperature grade, density and binder together

The plug family can be produced with different ceramic fiber and binder systems. Selection should be based on the actual port temperature, contact medium, thermal cycle, seating load and first-heat off-gassing requirement - not on classification temperature alone.

Option for review	Classification temperature	Density direction	Typical selection context
Standard alumina-silica shape	1260°C class	Typically reviewed around 300-450 kg/m ³	General aluminium tap-out, launder and furnace-port shapes
Enhanced high-alumina shape	1350-1430°C class	Project-specific within the selected grade	More severe thermal cycling or higher-temperature equipment positions
High-density sprue / cone	Selected to suit the fiber grade	Up to approximately 700 kg/m ³ by review	Positions requiring greater rigidity, including selected sprue-bush interfaces
Special high-temperature shape	Up to 1600°C class, on request	Project-specific	Specialised furnace or refractory-equipment projects requiring separate confirmation

Formulation choices reviewed with the application

Binder system	Organic, inorganic or combined binder approaches can be reviewed. Low-organic or inorganic options are considered when initial off-gassing is important.
Molten-aluminium contact	A molten-metal-resistant / non-wetting formulation can be reviewed for the stated aluminium alloy, temperature and flux exposure.
Rigidity and compressibility	Density and binder content are selected together to balance handling strength, seating contact and removal.
Final technical data	Selected-grade chemistry, density tolerance, recommended continuous-use condition, shrinkage, thermal conductivity and dimensional tolerance are confirmed on the quotation or approved datasheet.
Important Classification temperature is a material grade designation. It is not the recommended continuous operating temperature and does not by itself confirm suitability for molten-metal contact.	

APPLICATIONS AND SELECTION

Match the plug to the equipment interface

For these parts, reliable selection starts with the mating geometry and operating condition. A catalogue diameter alone is not enough when the cone angle, seat depth, head pressure or handling method differs from the original design.



Different taper profiles support different seating and insertion conditions

Application position	Why a fiber plug is considered	Confirm before quotation
Aluminium furnace tap-out port	Replaceable sealing element with low mass and conformable contact	Tap-block profile, alloy, metal temperature, head pressure and opening cycle
Launder tap-out or transfer point	Custom cone can match an existing bore or seat	Bore condition, insertion depth, flow exposure and replacement frequency
Sprue bush / low-pressure casting interface	Density and hardness can be reviewed for the seating load	Full mating drawing, pressure, required rigidity and dimensional acceptance
Furnace burner or inspection port	Rigid fiber shape can close an access opening while limiting heat storage	Atmosphere, gas velocity, mechanical retention and maximum service condition

Compatibility boundary Do not assume that one grade is suitable for every molten metal or furnace atmosphere. Applications involving magnesium, zinc, iron, steel, aggressive fluxes or unusual gases require a separate material and safety review.

STANDARD SIZE PROGRAMME

Reference dimensions for initial selection

The following item numbers are available as starting points. The listed diameter is the nominal base diameter in the current standard programme. Before order confirmation, ADCERAX reviews the full profile, including insertion-end diameter, cone angle, seat length and any end radius or shoulder.

Item No.	Base Ø mm	Height mm	Item No.	Base Ø mm	Height mm
AT-AO-DT001	50	70	AT-AO-DT011	85	135
AT-AO-DT002	57	100	AT-AO-DT012	90	140
AT-AO-DT003	65	65	AT-AO-DT013	90	200
AT-AO-DT004	65	110	AT-AO-DT014	90	270
AT-AO-DT005	70	70	AT-AO-DT015	95	130
AT-AO-DT006	70	110	AT-AO-DT016	100	150
AT-AO-DT007	70	90	AT-AO-DT017	105	180
AT-AO-DT008	75	120	AT-AO-DT018	110	140
AT-AO-DT009	80	100	AT-AO-DT019	120	160
AT-AO-DT010	80	125	AT-AO-DT020	170	110

Dimension confirmation Base diameter and height are reference values, not a substitute for the mating profile. For replacement parts, send the original drawing, a clear dimensional sketch or an unused sample. Final tolerances are confirmed after geometry, density and manufacturing review.

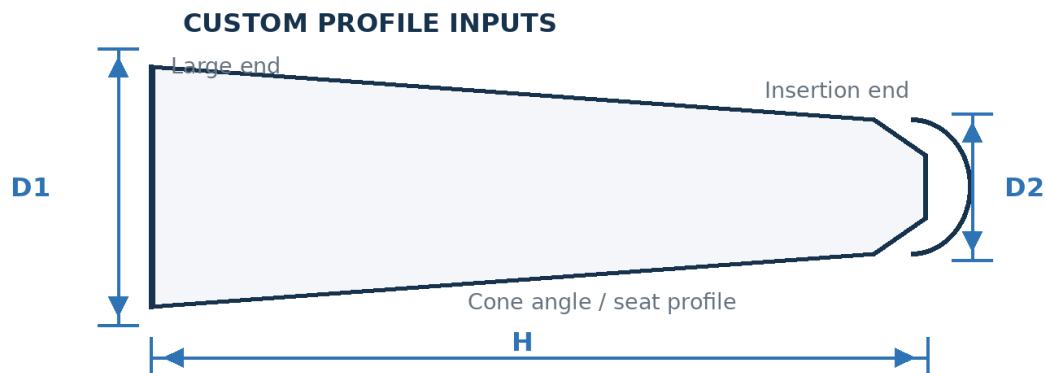


Custom profiles can be reviewed when a standard item does not match the seat

CUSTOMISATION AND RFQ

What to send for an engineering review

A concise fit and process review helps avoid plugs that look correct but do not seat, compress or release as expected. Use the dimension guide below and include the operating condition.



Minimum geometry: D1, D2 and H. Add cone angle, seat length, radii, shoulders or holes where applicable.

1 Geometry and fit	D1, D2, overall height H, cone angle, insertion depth, mating-bore dimensions, end radius/chamfer, shoulder, groove or through-hole
2 Material selection	Required temperature grade, target density or hardness, binder/off-gassing preference and any chemical or regulatory restriction
3 Operating condition	Metal or alloy, bath/port temperature, atmosphere, head pressure, gas velocity, flux contact and thermal cycling
4 Use and handling	Manual or tool-assisted insertion/removal, tapping frequency, expected replacement cycle and current failure mode
5 Commercial details	Trial quantity, monthly or annual usage, packaging requirement, destination and required delivery window
Temperature terminology Classification temperature is a grade designation, not a continuous-use guarantee. Recommended operating conditions depend on the selected fiber system, density, binder, atmosphere, contact medium, pressure and geometry.	

PRODUCTION AND DELIVERY PREPARATION

From profile review to protected packing

The manufacturing route is selected around the required shape, density and binder system. A typical sequence is material and binder preparation, vacuum forming, controlled drying, trimming or finishing, inspection and protective packing.

01	02	03	04	05
Material / binder review	Vacuum forming	Drying and finishing	Dimensional / visual inspection	Protected packing

Inspection and packing

Inspection can cover the agreed fit dimensions, overall profile, visible cracks or damage, surface condition and packing arrangement. Each plug is protected to reduce abrasion, deformation and dust during transport; carton or wooden-case arrangements are selected according to size, quantity and destination.



Representative packing sequence; final packing is confirmed with the order

Handling Keep products dry and protected from crushing. Avoid washing, soaking or cleaning with compressed air. Handle fiber products using the applicable safety data sheet, workplace controls and local requirements for protective clothing and respiratory protection.

Request a fit and material review

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