

05-15-2000

U.S. Department of Commerce  
Patent and Trademark Office  
PATENT



PD APR 25 AM 10: 52

101359897

GRANT/FINANCE

RECORDATION FORM COVER SHEET  
PATENTS ONLY

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type

☒ New

☐ Resubmission (Non-Recordation)  
Document ID#

☐ Correction of PTO Error  
Reel #  Frame #

☐ Corrective Document  
Reel #  Frame #

Conveyance Type

☐ Assignment ☒ Security Agreement

☐ License ☐ Change of Name

☐ Merger ☐ Other

U.S. Government  
(For Use ONLY by U.S. Government Agencies)

☐ Departmental File ☐ Secret File

Conveying Party(ies)

☐ Mark if additional names of conveying parties attached

Name (line 1)	Execution Date		
	Month	Day	Year
ADVANCED CERAMICS RESEARCH, INC.	1	5	2000
Name (line 2)			
Second Party			
Name (line 1)			
Name (line 2)			

Receiving Party

☐ Mark if additional names of receiving parties attached

Name (line 1)	BANK OF TUCSON	<input type="checkbox"/> If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)	
Name (line 2)			
Address (line 1)	P.O. BOX 12766		
Address (line 2)	4400 EAST BROADWAY		
Address (line 3)	TUCSON	ARIZONA/PIMA	85732
	City	State/Country	Zip Code

Domestic Representative Name and Address

Enter for the first Receiving Party only.

Name	
Address (line 1)	
Address (line 2)	
Address (line 3)	
Address (line 4)	

05/12/2000 JBNABAZZ 00000261 09439385

FOR OFFICE USE ONLY

01 FC:581

160.00 DP

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB

Mail documents to be recorded with required cover sheet(s) information to:  
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

REEL: 010777 FRAME: 0935

Correspondent Name and Address

Area Code and Telephone Number

520-882-7623

Name DALE F. REGELMAN

Address (line 1) HAYES, SOLOWAY, HENNESSEY, GROSSMAN & HAGE, P.C.

Address (line 2) 130 WEST CUSHING STREET

Address (line 3) TUCSON, ARIZONA 85701

Address (line 4)

Pages

Enter the total number of pages of the attached conveyance document including any attachments.

# 8

Application Number(s) or Patent Number(s)

☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

09439385

60178781

09456865

09488868

If this document is being filed together with a new Patent Application, enter the date the patent application was

Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number only if a U.S. Application Number has not been assigned.

PCT

PCT

PCT

PCT

PCT

PCT

Number of Properties

Enter the total number of properties involved.

# 4

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): \$

160.00

Method of Payment:

Enclosed ☒

Deposit Account ☐

Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the

Deposit Account Number:

# 08-1391

Authorization to charge additional fees:

Yes

☒

No

☐

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

DALE F. REGELMAN

Name of Person Signing

Signature

April 25, 2000

Date

# COMMERCIAL SECURITY AGREEMENT

Principal	Loan Date	Maturity	Loan No	Call	Collateral	Account	Officer	Initials
\$200,000.00	01-05-2000	04-05-2000	109628	CC4	20	109628	002	
References in the shaded area are for Lender's use only and do not limit the applicability of this document to any particular loan or item.								

**Borrower:** Advanced Ceramics Research, Inc.  
3292 E. Hemisphere Loop  
Tucson, AZ 85706

**Lender:** Bank of Tucson  
P O Box 12766  
4400 E Broadway  
Tucson, AZ 85732

THIS COMMERCIAL SECURITY AGREEMENT is entered into between Advanced Ceramics Research, Inc. (referred to below as "Grantor"); and Bank of Tucson (referred to below as "Lender"). For valuable consideration, Grantor grants to Lender a security interest in the Collateral to secure the indebtedness and agrees that Lender shall have the rights stated in this Agreement with respect to the Collateral, in addition to all other rights which Lender may have by law.

**DEFINITIONS.** The following words shall have the following meanings when used in this Agreement. Terms not otherwise defined in this Agreement shall have the meanings attributed to such terms in the Uniform Commercial Code. All references to dollar amounts shall mean amounts in lawful money of the United States of America.

**Agreement.** The word "Agreement" means this Commercial Security Agreement, as this Commercial Security Agreement may be amended or modified from time to time, together with all exhibits and schedules attached to this Commercial Security Agreement from time to time.

**Collateral.** The word "Collateral" means the following described property of Grantor, whether now owned or hereafter acquired, whether now existing or hereafter arising, and wherever located:

**All inventory, chattel paper, accounts, equipment and general intangibles, together with the following specifically described property: All ACR Intellectual Property including but not limited to EXHIBIT "A" attached hereto and incorporated herein by reference.**

In addition, the word "Collateral" includes all the following, whether now owned or hereafter acquired, whether now existing or hereafter arising, and wherever located:

- (a) All attachments, accessions, accessories, tools, parts, supplies, increases, and additions to and all replacements of and substitutions for any property described above.
- (b) All products and produce of any of the property described in this Collateral section.
- (c) All accounts, general intangibles, instruments, rents, monies, payments, and all other rights, arising out of a sale, lease, or other disposition of any of the property described in this Collateral section.
- (d) All proceeds (including insurance proceeds) from the sale, destruction, loss, or other disposition of any of the property described in this Collateral section.
- (e) All records and data relating to any of the property described in this Collateral section, whether in the form of a writing, photograph, microfilm, microfiche, or electronic media, together with all of Grantor's right, title, and interest in and to all computer software required to utilize, create, maintain, and process any such records or data on electronic media.

**Event of Default.** The words "Event of Default" mean and include without limitation any of the Events of Default set forth below in the section titled "Events of Default."

**Grantor.** The word "Grantor" means Advanced Ceramics Research, Inc., its successors and assigns

**Guarantor.** The word "Guarantor" means and includes without limitation each and all of the guarantors, sureties, and accommodation parties in connection with the indebtedness.

**Indebtedness.** The word "Indebtedness" means the indebtedness evidenced by the Note, including all principal and interest, together with all other indebtedness and costs and expenses for which Grantor is responsible under this Agreement or under any of the Related Documents.

# COMMERCIAL SECURITY AGREEMENT

Principal	Loan Date	Maturity	Loan No	Call	Collateral	Account	Officer	Initials
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- (c) All accounts, general intangibles, instruments, rents, monies, payments, and all other rights, arising out of a sale, lease, or other disposition of any of the property described in this Collateral section.
- (d) All proceeds (including insurance proceeds) from the sale, destruction, loss, or other disposition of any of the property described in this Collateral section.
- (e) All records and data relating to any of the property described in this Collateral section, whether in the form of a writing, photograph, microfilm, microfiche, or electronic media, together with all of Grantor's right, title, and interest in and to all computer software required to utilize, create, maintain, and process any such records or data on electronic media.

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**Guarantor.** The word "Guarantor" means and includes without limitation each and all of the guarantors, sureties, and accommodation parties in connection with the Indebtedness.

**Indebtedness.** The word "Indebtedness" means the indebtedness evidenced by the Note, including all principal and interest, together with all other indebtedness and costs and expenses for which Grantor is responsible under this Agreement or under any of the Related Documents.

**Lender.** The word "Lender" means Bank of Tucson, its successors and assigns.

**Note.** The word "Note" means the note or credit agreement dated January 5, 2000, in the principal amount of \$200,000.00 from Advanced Ceramics Research, Inc. to Lender, together with all renewals of, extensions of, modifications of, refinancings of, consolidations of and substitutions for the note or credit agreement.

**Related Documents.** The words "Related Documents" mean and include without limitation all promissory notes, credit agreements, loan agreements, environmental agreements, guaranties, security agreements, mortgages, deeds of trust, and all other instruments, agreements and documents, whether now or hereafter existing, executed in connection with the indebtedness.

**RIGHT OF SETOFF.** Grantor hereby grants Lender a contractual security interest in and hereby assigns, conveys, delivers, pledges, and transfers all of Grantor's right, title and interest in and to Grantor's accounts with Lender (whether checking, savings or some other account), including all accounts held jointly with someone else and all accounts Grantor may open in the future, excluding, however, all IRA and Keogh accounts, and all trust accounts for which the grant of a security interest would be prohibited by law. Grantor authorizes Lender, to the extent permitted by applicable law, to charge or setoff all indebtedness against any and all such accounts.

**OBLIGATIONS OF GRANTOR.** Grantor warrants and covenants to Lender as follows:

**Perfection of Security Interest.** Grantor agrees to execute such financing statements and to take whatever other actions are requested by Lender to perfect and continue Lender's security interest in the Collateral. Upon request of Lender, Grantor will deliver to Lender any and all of the documents evidencing or constituting the Collateral, and Grantor will note Lender's interest upon any and all chattel paper if not delivered to Lender for possession by Lender. Grantor hereby appoints Lender as its irrevocable attorney-in-fact for the purpose of executing any documents necessary to perfect or to continue the security interest granted in this Agreement. Lender may at any time, and without further authorization from Grantor, file a carbon, photographic or other reproduction of any financing statement or of this Agreement for use as a financing statement. Grantor will reimburse Lender for all expenses for the perfection and the continuation of the perfection of Lender's security interest in the Collateral. Grantor promptly will notify Lender before any change in Grantor's name including any change to the assumed business names of Grantor.

**No Violation.** The execution and delivery of this Agreement will not violate any law or agreement governing Grantor or to which Grantor is a party, and its certificate or articles of incorporation and bylaws do not prohibit any term or condition of this Agreement.

**Enforceability of Collateral.** To the extent the Collateral consists of accounts, chattel paper, or general intangibles, the Collateral is enforceable in accordance with its terms, is genuine, and complies with applicable laws concerning form, content and manner of preparation and execution, and all persons appearing to be obligated on the Collateral have authority and capacity to contract and are in fact obligated as they appear to be on the Collateral. At the time any account becomes subject to a security interest in favor of Lender, the account shall be a good and valid account representing an undisputed, bona fide indebtedness incurred by the account debtor, for merchandise held subject to delivery instructions or theretofore shipped or delivered pursuant to a contract of sale, or for services theretofore performed by Grantor with or for the account debtor; there shall be no setoffs or counterclaims against any such account; and no agreement under which any deductions or discounts may be claimed shall have been made with the account debtor except those disclosed to Lender in writing.

**Location of the Collateral.** Grantor, upon request of Lender, will deliver to Lender in form satisfactory to Lender a schedule of real properties and Collateral locations relating to Grantor's operations, including without limitation the following: (a) all real property owned or being purchased by Grantor; (b) all real property being rented or leased by Grantor; (c) all storage facilities owned, rented, leased, or being used by Grantor; and (d) all other properties where Collateral is or may be located. Except in the ordinary course of its business, Grantor shall not remove the Collateral from its existing locations without the prior written consent of Lender.

**Removal of Collateral.** Grantor shall keep the Collateral (or to the extent the Collateral consists of intangible property such as accounts, the records concerning the Collateral) at Grantor's address shown above, or at such other locations as are acceptable to Lender. Except in the ordinary course of its business, including the sales of inventory, Grantor shall not remove the Collateral from its existing locations without the prior written consent of Lender. To the extent that the Collateral consists of vehicles, or other titled property, Grantor shall not take or permit any action which would require application for certificates of title for the vehicles outside the State of Arizona without the prior written consent of Lender.

**Transactions Involving Collateral.** Except for inventory sold or accounts collected in the ordinary course of Grantor's business, Grantor shall not sell, offer to sell, or otherwise transfer or dispose of the Collateral. While Grantor is not in default under this Agreement, Grantor may sell inventory, but only in the ordinary course of its business and only to buyers who qualify as a buyer in the ordinary course of business. A sale in the ordinary course of Grantor's business does not include a transfer in partial or total satisfaction of a debt or any bulk sale. Grantor shall not pledge, mortgage, encumber or otherwise permit the Collateral to be subject to any lien, security interest, encumbrance, or charge, other than the security interest provided for in this Agreement, without the prior written consent of Lender. This includes security interests even if junior in right to the security interests granted under this Agreement. Unless waived by Lender, all proceeds from any disposition of the Collateral (for whatever reason) shall be held in trust for Lender and shall not be commingled with any other funds; provided however, this requirement shall not constitute consent by Lender to any sale or other disposition. Upon receipt, Grantor shall immediately deliver any such proceeds to Lender.

**Title.** Grantor represents and warrants to Lender that it holds good and marketable title to the Collateral, free

and clear of all liens and encumbrances except for the lien of this Agreement. No financing statement covering any of the Collateral is on file in any public office other than those which reflect the security interest created by this Agreement or to which Lender has specifically consented. Grantor shall defend Lender's rights in the Collateral against the claims and demands of all other persons.

**Collateral Schedules and Locations.** As often as Lender shall require, and insofar as the Collateral consists of accounts and general intangibles, Grantor shall deliver to Lender schedules of such Collateral, including such information as Lender may require, including without limitation names and addresses of account debtors and agings of accounts and general intangibles. Insofar as the Collateral consists of inventory and equipment, Grantor shall deliver to Lender, as often as Lender shall require, such lists, descriptions, and designations of such Collateral as Lender may require to identify the nature, extent, and location of such Collateral. Such information shall be submitted for Grantor and each of its subsidiaries or related companies.

**Maintenance and Inspection of Collateral.** Grantor shall maintain all tangible Collateral in good condition and repair. Grantor will not commit or permit damage to or destruction of the Collateral or any part of the Collateral. Lender and its designated representatives and agents shall have the right at all reasonable times to examine, inspect, and audit the Collateral wherever located. Grantor shall immediately notify Lender of all cases involving the return, rejection, repossession, loss or damage of or to any Collateral; of any request for credit or adjustment or of any other dispute arising with respect to the Collateral; and generally of all happenings and events affecting the Collateral or the value or the amount of the Collateral.

**Taxes, Assessments and Liens.** Grantor will pay when due all taxes, assessments and liens upon the Collateral, its use or operation, upon this Agreement, upon any promissory note or notes evidencing the Indebtedness, or upon any of the other Related Documents. Grantor may withhold any such payment or may elect to contest any lien if Grantor is in good faith conducting an appropriate proceeding to contest the obligation to pay and so long as Lender's interest in the Collateral is not jeopardized in Lender's sole opinion. If the Collateral is subjected to a lien which is not discharged within fifteen (15) days, Grantor shall deposit with Lender cash, a sufficient corporate surety bond or other security satisfactory to Lender in an amount adequate to provide for the discharge of the lien plus any interest, costs, attorneys' fees or other charges that could accrue as a result of foreclosure or sale of the Collateral. In any contest Grantor shall defend itself and Lender and shall satisfy any final adverse judgment before enforcement against the Collateral. Grantor shall name Lender as an additional obligee under any surety bond furnished in the contest proceedings.

**Compliance With Governmental Requirements.** Grantor shall comply promptly with all laws, ordinances, rules and regulations of all governmental authorities, now or hereafter in effect, applicable to the ownership, production, disposition, or use of the Collateral. Grantor may contest in good faith any such law, ordinance or regulation and withhold compliance during any proceeding, including appropriate appeals, so long as Lender's interest in the Collateral, in Lender's opinion, is not jeopardized.

**Hazardous Substances.** Grantor represents and warrants that the Collateral never has been, and never will be so long as this Agreement remains a lien on the Collateral, used for the generation, manufacture, storage, transportation, treatment, disposal, release or threatened release of any hazardous waste or substance, as those terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9601, et seq. ("CERCLA"), the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499 ("SARA"), the Hazardous Materials Transportation Act 49 U.S.C. Section 1801, et seq., the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901, et seq., or other applicable state or Federal laws, rules, or regulations adopted pursuant to any of the foregoing. The terms "hazardous waste" and "hazardous substance" shall also include, without limitation, petroleum and petroleum by-products or any fraction thereof and asbestos. The representations and warranties contained herein are based on Grantor's due diligence in investigating the Collateral for hazardous wastes and substances. Grantor hereby (a) releases and waives any future claims against Lender for indemnity or contribution in the event Grantor becomes liable for cleanup or other costs under any such laws, and (b) agrees to indemnify and hold harmless Lender against any and all claims and losses resulting from a breach of this provision of this Agreement. This obligation to indemnify shall survive the payment of the Indebtedness and the satisfaction of this Agreement.

**Maintenance of Casualty Insurance.** Grantor shall procure and maintain all risks insurance, including without limitation fire, theft and liability coverage together with such other insurance as Lender may require with respect to the Collateral, in form, amounts, coverages and basis reasonably acceptable to Lender and issued by a company or companies reasonably acceptable to Lender. Grantor, upon request of Lender, will deliver to Lender from time to time the policies or certificates of insurance in form satisfactory to Lender, including stipulations that coverages will not be cancelled or diminished without at least ten (10) days' prior written notice to Lender and not including any disclaimer of the insurer's liability for failure to give such a notice. Each insurance policy also shall include an endorsement providing that coverage in favor of Lender will not be impaired in any way by any act, omission or default of Grantor or any other person. In connection with all policies covering assets in which Lender holds or is offered a security interest, Grantor will provide Lender with such loss payable or other endorsements as Lender may require. If Grantor at any time fails to obtain or maintain any insurance as required under this Agreement, Lender may (but shall not be obligated to) obtain such insurance as Lender deems appropriate, including if it so chooses "single interest insurance," which will cover only Lender's interest in the Collateral.

**Application of Insurance Proceeds.** Grantor shall promptly notify Lender of any loss or damage to the Collateral. Lender may make proof of loss if Grantor fails to do so within fifteen (15) days of the casualty. All proceeds of any insurance on the Collateral, including accrued proceeds thereon, shall be held by Lender as part of the Collateral. If Lender consents to repair or replacement of the damaged or destroyed Collateral, Lender shall, upon satisfactory proof of expenditure, pay or reimburse Grantor from the proceeds for the reasonable cost of repair or restoration. If Lender does not consent to repair or replacement of the Collateral,

Lender shall retain a sufficient amount of the proceeds to pay all of the Indebtedness, and shall pay the balance to Grantor. Any proceeds which have not been disbursed within six (6) months after their receipt and which Grantor has not committed to the repair or restoration of the Collateral shall be used to prepay the Indebtedness.

**Insurance Reserves.** Lender may require Grantor to maintain with Lender reserves for payment of insurance premiums, which reserves shall be created by monthly payments from Grantor of a sum estimated by Lender to be sufficient to produce, at least fifteen (15) days before the premium due date, amounts at least equal to the insurance premiums to be paid. If fifteen (15) days before payment is due, the reserve funds are insufficient, Grantor shall upon demand pay any deficiency to Lender. The reserve funds shall be held by Lender as a general deposit and shall constitute a non-interest-bearing account which Lender may satisfy by payment of the insurance premiums required to be paid by Grantor as they become due. Lender does not hold the reserve funds in trust for Grantor, and Lender is not the agent of Grantor for payment of the insurance premiums required to be paid by Grantor. The responsibility for the payment of premiums shall remain Grantor's sole responsibility.

**Insurance Reports.** Grantor, upon request of Lender, shall furnish to Lender reports on each existing policy of insurance showing such information as Lender may reasonably request including the following: (a) the name of the insurer; (b) the risks insured; (c) the amount of the policy; (d) the property insured; (e) the then current value on the basis of which insurance has been obtained and the manner of determining that value; and (f) the expiration date of the policy. In addition, Grantor shall upon request by Lender (however not more often than annually) have an independent appraiser satisfactory to Lender determine, as applicable, the cash value or replacement cost of the Collateral.

**GRANTOR'S RIGHT TO POSSESSION AND TO COLLECT ACCOUNTS.** Until default and except as otherwise provided below with respect to accounts, Grantor may have possession of the tangible personal property and beneficial use of all the Collateral and may use it in any lawful manner not inconsistent with this Agreement or the Related Documents, provided that Grantor's right to possession and beneficial use shall not apply to any Collateral where possession of the Collateral by Lender is required by law to perfect Lender's security interest in such Collateral. Until otherwise notified by Lender, Grantor may collect any of the Collateral consisting of accounts. At any time and even though no Event of Default exists, Lender may exercise its rights to collect the accounts and to notify account debtors to make payments directly to Lender for application to the Indebtedness. If Lender at any time has possession of any Collateral, whether before or after an Event of Default, Lender shall be deemed to have exercised reasonable care in the custody and preservation of the Collateral if Lender takes such action for that purpose as Grantor shall request or as Lender, in Lender's sole discretion, shall deem appropriate under the circumstances, but failure to honor any request by Grantor shall not of itself be deemed to be a failure to exercise reasonable care. Lender shall not be required to take any steps necessary to preserve any rights in the Collateral against prior parties, nor to protect, preserve or maintain any security interest given to secure the Indebtedness.

**EXPENDITURES BY LENDER.** If not discharged or paid when due, Lender may (but shall not be obligated to) discharge or pay any amounts required to be discharged or paid by Grantor under this Agreement, including without limitation all taxes, liens, security interests, encumbrances, and other claims, at any time levied or placed on the Collateral. Lender also may (but shall not be obligated to) pay all costs for insuring, maintaining and preserving the Collateral. All such expenditures incurred or paid by Lender for such purposes will then bear interest at the rate charged under the Note from the date incurred or paid by Lender to the date of repayment by Grantor. All such expenses shall become a part of the Indebtedness and, at Lender's option, will (a) be payable on demand, (b) be added to the balance of the Note and be apportioned among and be payable with any installment payments to become due during either (i) the term of any applicable insurance policy or (ii) the remaining term of the Note, or (c) be treated as a balloon payment which will be due and payable at the Note's maturity. This Agreement also will secure payment of these amounts. Such right shall be in addition to all other rights and remedies to which Lender may be entitled upon the occurrence of an Event of Default.

**EVENTS OF DEFAULT.** Each of the following shall constitute an Event of Default under this Agreement:

**Default on Indebtedness.** Failure of Grantor to make any payment when due on the Indebtedness.

**Other Defaults.** Failure of Grantor to comply with or to perform any other term, obligation, covenant or condition contained in this Agreement or in any of the Related Documents or in any other agreement between Lender and Grantor.

**False Statements.** Any warranty, representation or statement made or furnished to Lender by or on behalf of Grantor under this Agreement, the Note or the Related Documents is false or misleading in any material respect, either now or at the time made or furnished.

**Defective Collateralization.** This Agreement or any of the Related Documents ceases to be in full force and effect (including failure of any collateral documents to create a valid and perfected security interest or lien) at any time and for any reason.

**Insolvency.** The dissolution or termination of Grantor's existence as a going business, the insolvency of Grantor, the appointment of a receiver for any part of Grantor's property, any assignment for the benefit of creditors, any type of creditor workout, or the commencement of any proceeding under any bankruptcy or insolvency laws by or against Grantor.

**Creditor or Forfeiture Proceedings.** Commencement of foreclosure or forfeiture proceedings, whether by judicial proceeding, self-help, repossession or any other method, by any creditor of Grantor or by any governmental agency against the Collateral or any other collateral securing the Indebtedness. This includes a garnishment of any of Grantor's deposit accounts with Lender.



**Events Affecting Guarantor.** Any of the preceding events occurs with respect to any Guarantor of any of the Indebtedness or such Guarantor dies or becomes incompetent.

**Adverse Change.** A material adverse change occurs in Grantor's financial condition, or Lender believes the prospect of payment or performance of the Indebtedness is impaired.

**Insecurity.** Lender, in good faith, deems itself insecure.

**RIGHTS AND REMEDIES ON DEFAULT.** If an Event of Default occurs under this Agreement, at any time thereafter, Lender shall have all the rights of a secured party under the Arizona Uniform Commercial Code. In addition and without limitation, Lender may exercise any one or more of the following rights and remedies:

**Accelerate Indebtedness.** Lender may declare the entire Indebtedness, including any prepayment penalty which Grantor would be required to pay, immediately due and payable, without notice.

**Assemble Collateral.** Lender may require Grantor to deliver to Lender all or any portion of the Collateral and any and all certificates of title and other documents relating to the Collateral. Lender may require Grantor to assemble the Collateral and make it available to Lender at a place to be designated by Lender. Lender also shall have full power to enter upon the property of Grantor to take possession of and remove the Collateral. If the Collateral contains other goods not covered by this Agreement at the time of repossession, Grantor agrees Lender may take such other goods, provided that Lender makes reasonable efforts to return them to Grantor after repossession.

**Sell the Collateral.** Lender shall have full power to sell, lease, transfer, or otherwise deal with the Collateral or proceeds thereof in its own name or that of Grantor. Lender may sell the Collateral at public auction or private sale. Unless the Collateral threatens to decline speedily in value or is of a type customarily sold on a recognized market, Lender will give Grantor reasonable notice of the time after which any private sale or any other intended disposition of the Collateral is to be made. The requirements of reasonable notice shall be met if such notice is given at least ten (10) days before the time of the sale or disposition. All expenses relating to the disposition of the Collateral, including without limitation the expenses of retaking, holding, insuring, preparing for sale and selling the Collateral, shall become a part of the Indebtedness secured by this Agreement and shall be payable on demand, with interest at the Note rate from date of expenditure until repaid.

**Appoint Receiver.** To the extent permitted by applicable law, Lender shall have the following rights and remedies regarding the appointment of a receiver: (a) Lender may have a receiver appointed as a matter of right, (b) the receiver may be an employee of Lender and may serve without bond, and (c) all fees of the receiver and his or her attorney shall become part of the Indebtedness secured by this Agreement and shall be payable on demand, with interest at the Note rate from date of expenditure until repaid.

**Collect Revenues, Apply Accounts.** Lender, either itself or through a receiver, may collect the payments, rents, income, and revenues from the Collateral. Lender may at any time in its discretion transfer any Collateral into its own name or that of its nominee and receive the payments, rents, income, and revenues therefrom and hold the same as security for the Indebtedness or apply it to payment of the Indebtedness in such order of preference as Lender may determine. Insofar as the Collateral consists of accounts, general intangibles, insurance policies, instruments, chattel paper, choses in action, or similar property, Lender may demand, collect, receipt for, settle, compromise, adjust, sue for, foreclose, or realize on the Collateral as Lender may determine, whether or not Indebtedness or Collateral is then due. For these purposes, Lender may, on behalf of and in the name of Grantor, receive, open and dispose of mail addressed to Grantor; change any address to which mail and payments are to be sent; and endorse notes, checks, drafts, money orders, documents of title, instruments and items pertaining to payment, shipment, or storage of any Collateral. To facilitate collection, Lender may notify account debtors and obligors on any Collateral to make payments directly to Lender.

**Obtain Deficiency.** If Lender chooses to sell any or all of the Collateral, Lender may obtain a judgment against Grantor for any deficiency remaining on the Indebtedness due to Lender after application of all amounts received from the exercise of the rights provided in this Agreement. Grantor shall be liable for a deficiency even if the transaction described in this subsection is a sale of accounts or chattel paper.

**Other Rights and Remedies.** Lender shall have all the rights and remedies of a secured creditor under the provisions of the Uniform Commercial Code, as may be amended from time to time. In addition, Lender shall have and may exercise any or all other rights and remedies it may have available at law, in equity, or otherwise.

**Cumulative Remedies.** All of Lender's rights and remedies, whether evidenced by this Agreement or the Related Documents or by any other writing, shall be cumulative and may be exercised singularly or concurrently. Election by Lender to pursue any remedy shall not exclude pursuit of any other remedy, and an election to make expenditures or to take action to perform an obligation of Grantor under this Agreement, after Grantor's failure to perform, shall not affect Lender's right to declare a default and to exercise its remedies.

**MISCELLANEOUS PROVISIONS.** The following miscellaneous provisions are a part of this Agreement:

**Amendments.** This Agreement, together with any Related Documents, constitutes the entire understanding and agreement of the parties as to the matters set forth in this Agreement. No alteration of or amendment to this Agreement shall be effective unless given in writing and signed by the party or parties sought to be charged or bound by the alteration or amendment.

**Applicable Law.** This Agreement has been delivered to Lender and accepted by Lender in the State of Arizona. If there is a lawsuit, Grantor agrees upon Lender's request to submit to the jurisdiction of the courts



of Pima County, the State of Arizona. Subject to the provisions on arbitration, this Agreement shall be governed by and construed in accordance with the laws of the State of Arizona.

**Arbitration.** Lender and Grantor agree that all disputes, claims and controversies between them, whether individual, joint, or class in nature, arising from this Agreement or otherwise, including without limitation contract and tort disputes, shall be arbitrated pursuant to the Rules of the American Arbitration Association, upon request of either party. No act to take or dispose of any Collateral shall constitute a waiver of this arbitration agreement or be prohibited by this arbitration agreement. This includes, without limitation, obtaining injunctive relief or a temporary restraining order; invoking a power of sale under any deed of trust or mortgage; obtaining a writ of attachment or imposition of a receiver; or exercising any rights relating to personal property, including taking or disposing of such property with or without judicial process pursuant to Article 9 of the Uniform Commercial Code. Any disputes, claims, or controversies concerning the lawfulness or reasonableness of any act, or exercise of any right, concerning any Collateral, including any claim to rescind, reform, or otherwise modify any agreement relating to the Collateral, shall also be arbitrated, provided however that no arbitrator shall have the right or the power to enjoin or restrain any act of any party. Judgment upon any award rendered by any arbitrator may be entered in any court having jurisdiction. Nothing in this Agreement shall preclude any party from seeking equitable relief from a court of competent jurisdiction. The statute of limitations, estoppel, waiver, laches, and similar doctrines which would otherwise be applicable in an action brought by a party shall be applicable in any arbitration proceeding, and the commencement of an arbitration proceeding shall be deemed the commencement of an action for these purposes. The Federal Arbitration Act shall apply to the construction, interpretation, and enforcement of this arbitration provision.

**Attorneys' Fees; Expenses.** Grantor agrees to pay upon demand all of Lender's costs and expenses, including attorneys' fees and Lender's legal expenses, incurred in connection with the enforcement of this Agreement. Lender may pay someone else to help enforce this Agreement, and Grantor shall pay the costs and expenses of such enforcement. Costs and expenses include Lender's attorneys' fees and legal expenses whether or not there is a lawsuit, including attorneys' fees and legal expenses for bankruptcy proceedings (and including efforts to modify or vacate any automatic stay or injunction), appeals, and any anticipated post-judgment collection services. Grantor also shall pay all court costs and such additional fees as may be directed by the court.

**Caption Headings.** Caption headings in this Agreement are for convenience purposes only and are not to be used to interpret or define the provisions of this Agreement.

**Multiple Parties; Corporate Authority.** All obligations of Grantor under this Agreement shall be joint and several, and all references to Grantor shall mean each and every Grantor. This means that each of the persons signing below is responsible for all obligations in this Agreement.

**Notices.** All notices required to be given under this Agreement shall be given in writing, may be sent by telefacsimile (unless otherwise required by law), and shall be effective when actually delivered or when deposited with a nationally recognized overnight courier or deposited in the United States mail, first class, postage prepaid, addressed to the party to whom the notice is to be given at the address shown above. Any party may change its address for notices under this Agreement by giving formal written notice to the other parties, specifying that the purpose of the notice is to change the party's address. To the extent permitted by applicable law, if there is more than one Grantor, notice to any Grantor will constitute notice to all Grantors. For notice purposes, Grantor will keep Lender informed at all times of Grantor's current address(es).

**Power of Attorney.** Grantor hereby appoints Lender as its true and lawful attorney-in-fact, irrevocably, with full power of substitution to do the following: (a) to demand, collect, receive, receipt for, sue and recover all sums of money or other property which may now or hereafter become due, owing or payable from the Collateral; (b) to execute, sign and endorse any and all claims, instruments, receipts, checks, drafts or warrants issued in payment for the Collateral; (c) to settle or compromise any and all claims arising under the Collateral, and, in the place and stead of Grantor, to execute and deliver its release and settlement for the claim; and (d) to file any claim or claims or to take any action or institute or take part in any proceedings, either in its own name or in the name of Grantor, or otherwise, which in the discretion of Lender may seem to be necessary or advisable. This power is given as security for the Indebtedness, and the authority hereby conferred is and shall be irrevocable and shall remain in full force and effect until renounced by Lender.

**Severability.** If a court of competent jurisdiction finds any provision of this Agreement to be invalid or unenforceable as to any person or circumstance, such finding shall not render that provision invalid or unenforceable as to any other persons or circumstances. If feasible, any such offending provision shall be deemed to be modified to be within the limits of enforceability or validity; however, if the offending provision cannot be so modified, it shall be stricken and all other provisions of this Agreement in all other respects shall remain valid and enforceable.

**Successor Interests.** Subject to the limitations set forth above on transfer of the Collateral, this Agreement shall be binding upon and inure to the benefit of the parties, their successors and assigns.

**Time is of the Essence.** Time is of the essence in the performance of this Agreement.

**Waiver.** Lender shall not be deemed to have waived any rights under this Agreement unless such waiver is given in writing and signed by Lender. No delay or omission on the part of Lender in exercising any right shall operate as a waiver of such right or any other right. A waiver by Lender of a provision of this Agreement shall not prejudice or constitute a waiver of Lender's right otherwise to demand strict compliance with that provision or any other provision of this Agreement. No prior waiver by Lender, nor any course of dealing between Lender and Grantor, shall constitute a waiver of any of Lender's rights or of any of Grantor's obligations as to any future transactions. Whenever the consent of Lender is required under this Agreement,

the granting of such consent by Lender in any instance shall not constitute continuing consent to subsequent instances where such consent is required and in all cases such consent may be granted or withheld in the sole discretion of Lender.

GRANTOR ACKNOWLEDGES HAVING READ ALL THE PROVISIONS OF THIS COMMERCIAL SECURITY AGREEMENT, AND GRANTOR AGREES TO ITS TERMS. THIS AGREEMENT IS DATED JANUARY 5, 2000.

GRANTOR:

Advanced Ceramics Research, Inc.

By: Anthony C. Mulligan  
Anthony C. Mulligan, President

By: Mark L. Angier  
Mark L. Angier, EVP and Secretary

LENDER:

Bank of Tucson

By: David Jones  
Authorized Officer

## EXHIBIT "A"

April 20, 2000

No.	Application Serial No.	Title	Description
1	Serial No. 09/439,385	Method For Manufacture of Mandrels For Solid Fuel Rocket Motors and Other Applications	U.S. Utility Patent Application Filed 11/15/99 by Banner & Witcoff Application pending
2	Serial No. 09/456,865	Machinable Positive Image Model Material For Shape Deposition Manufacturing	U.S. Utility Patent Application Filed 12/08/99 by Banner & Witcoff Application pending
3	Serial No. 09/488,868	Composition And Methods Of Continuous Composite Coextrusions	U.S. Utility Patent Application Filed 1/21/00 by Banner & Witcoff Application pending
4	Serial No. 60/178,781	Fibrous Monoliths And Processes For Manufacture of Fibrous Monoliths	U.S. Provisional Patent Application Filed 01/28/00 by Banner & Witcoff Application pending