



# Patent Search Report Overview

### Matter Info

Reference number, search type, etc.

### Expanding Sections

Clicking a [+] button will expand that section of the search report.

### Mapped Analysis\*

Mappings are provided for single reference and combined reference analysis.

\*Optional Feature

### Elements\*

Mappings are provided based on the elements, or key features, of the disclosure or claim.

\*Optional Feature

### Reference List

Includes cited segments and downloadable PDFs.

### Search History

Complete record of sources and search strings.

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Title: Rapid Prototyping Device - Demo  
 Requested: 11/03/2009 Reference Number: 4005.12 Cardinal IP Reference Number: 4005.12 All References: [PDF icon]  
 Type: Invalidity Search Project Manager: None Deliverable PDF: [PDF icon]

**Single Reference**  
 1 (Independent)  
**US6722872**

Claim Elements	Reference Segments
A computer-aided method for making a mold, the method comprising:	<b>US6722872</b> col 1, ln 8-13
applying a layering technique to mold said thermoplastic polymer into a 3D (three-dimensional) object.	<b>US6722872</b> col 7, ln 8-13

More particularly, the invention relates to modeling machines which form three-dimensional objects in a heated chamber by depositing modeling material from a dispensing head onto a modeling base as the dispensing head and the base are moved in three-dimensions with respect to each other.

More particularly, the invention relates to modeling machines which form three-dimensional objects in a heated chamber by depositing modeling material from a dispensing head onto a modeling base as the dispensing head and the base are moved in three-dimensions with respect to each other.

**Combined References**  
 1 (Independent)  
**US6405095** Combined with: **US20040104515**, **US7277770**

Claim Elements	Reference Segments
A computer-aided method for making a mold, the method comprising:	<b>US6405095</b> col 2, ln 40-42
placing the thermoplastic polymer in a heating chamber; and	<b>US7277770</b> col 9, ln 5-9

The "green" part made up of those bonded powder particles is separated from the loose powder when the process is completed.

Additive process modeling machines make three-dimensional models by building up a modeling medium, usually in planar layers, based upon design data provided from a computer aided design (CAD) system.

The assembly 27 has optional heating elements 25a,25b to help the fluid material in the reservoir 24 and chamber 32 maintain a desired constant temperature.

**All References Used**

Reference #	Pub. Date	Title	Company
US6722872	04/20/2004	High temperature modeling apparatus	Statlays, Inc. (Eden Prairie, MN)
US6722872: col 1, ln 8-13		More particularly, the invention relates to modeling machines which form three-dimensional objects in a heated chamber by depositing modeling material from a dispensing head onto a modeling base as the dispensing head and the base are moved in three-dimensions with respect to each other.	
US6722872: col 2, ln 10-13		Thermoplastic materials, particularly ABS thermoplastic, have been found particularly suitable for deposition modeling	
US6722872: col 1, ln 14-17		Additive process modeling machines make three-dimensional models by building up a modeling medium, usually in planar layers, based upon design data provided from a computer aided design (CAD) system.	
US6405095	06/11/2002	Rapid prototyping and tooling system	Nanotek Instruments, Inc. (Opelika, AL)
US7277770	10/02/2007	Direct write process and apparatus	
US20040104515	06/03/2004	High-Temperature modeling method	Statlays, Inc. Eden Prairie MN 55344

**Search History**

DIALOG  
 Conducted November 12, 2008  
 Databases - 2,6,35,144,155,239,315,440,344,345,348,349,351,371,652,654

2 - INSPEC  
 6 - NTIS (National Technical Information Service)  
 35 - Dissertation Abstracts Online  
 144 - PASCAL  
 155 - MEDLINE  
 239 - MathSci  
 315 - Chemical Engineering and Biotechnology Abstracts  
 344 - Chinese Patent Abstracts in English  
 345 - INPADOC  
 348 - European Patents Fulltext

Search History  
 Set Term Searched Items  
 S1 RAPID(2N)PROTOTYP? 23232  
 S2 S1 AND ((THERMAL(2N)PLASTIC) OR THERMOPLASTIC) 1499  
 S3 S2 AND POLYMER 1167  
 S4 S3 AND (CAD OR (COMPUTER(2N)AIDED(2N)DESIGN)) 515  
 S5 S4 AND (3D OR (THREE(2N)DIMENSION?) OR 3(2N)DIMENSION?) 448  
 S6 S5 AND CHAMBER 182

US PTO PATFT:  
 Conducted November 12, 2008  
 Results of Search in US Patent Collection db for:  
 (SPEC((((rapid AND prototyping) AND (thermoplastic OR (thermal AND plastic))) AND polymer) AND (CAD OR ((computer AND aided) AND design))) AND (3D OR (three AND dimension?))) AND chamber: 61 patents.

US PTO PGPUB  
 Conducted November 12, 2008  
 Results of Search in PGPUB Production Database for:  
 (SPEC((((rapid AND prototyping) AND (thermoplastic OR (thermal AND plastic))) AND polymer) AND (CAD OR ((computer AND aided) AND design))) AND (3D OR (three AND dimension?))) AND chamber: 116 applications.

### Deliverables

Links are provided to:

- 1) A zip file containing PDFs of all cited references.
- 2) A PDF version of the search report.

### Reference Segments

Each element is mapped to one or more segments from the cited references.

### Downloadable PDF

References provided as a downloadable PDF.



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