

SigmaNEST TrueShape™

SigmaNEST TrueShape is an ideal first step towards improving cutting and punching production through automated dynamic nesting and superior NC programming. SigmaNEST TrueShape optimizes the cutting space and uses part-in-part nesting to reduce or eliminate scrap. SigmaNEST TrueShape is compatible with all major cutting machines including laser, plasma, oxyfuel, waterjet, and router, as well as combination machines.

FEATURES

- Automatic part pattern recognition
- Part-in-part nesting
- Accurate cost and time estimators
- Adaptive nesting for multi-head machines
- Drag, drop, and bump features
- Automatic and manual true shape nesting
- Automatic NC toolpath generation and optimization
- Extensive, fully customizable standard shapes library

ADVANTAGES

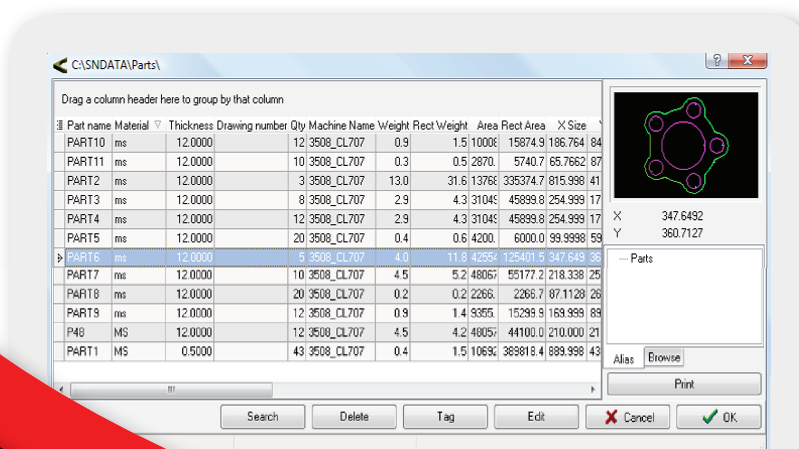
- One software programs all major profile cutting and punching machines
- Optimal material utilization to reduce scrap
- Maximum flexibility in file conversion and importation
- Custom shapes can be saved into standard part library for future use
- Streamline planning with accurate time and cost estimates before cutting

BENEFITS

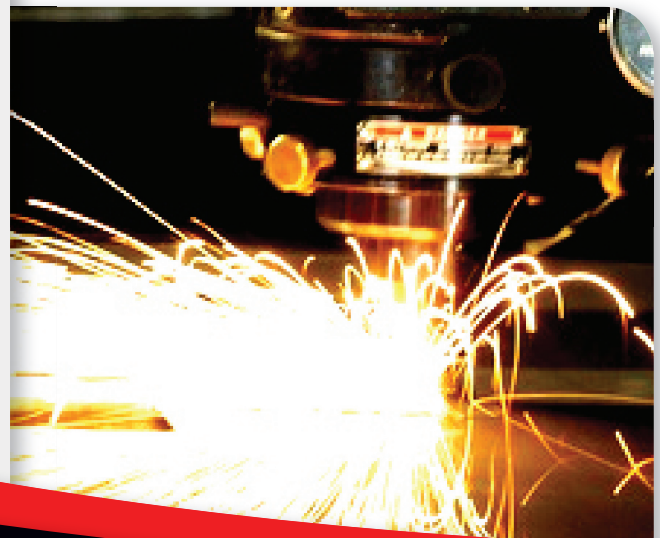
- Save engineering time through simplified programming and more efficient machine output
- TrueShape nesting provides maximum yield per sheet
- Handle more orders in less time
- Completely customizable through SigmaNEST's open architecture

Technical Specifications

- Runs inside Windows XP or Vista® operating systems
- Import standard industry file formats such as CDL, AutoCAD DXF and DWG, HPGL, and IGES
- ESSI, G and M codes can be user-configured
- Post processors for multiple machines
- Standard and customizable report generation system



Integrated parts database





Geometry/Importing

- Integrated 2D CAD drawing package:
 - Create polylines, lines, arcs, circles, fillets, chamfers, notches, bevels, layers, text, notes, and dimensions
 - Duplicate, move, scale, mirror, rotate, or array copy geometry
 - Trim, break, extend, auto-segment large arcs, and snap-to arcs as well as circle quadrants
 - Validate the file, filter geometry, and change weld gap before creating a part
 - Definable reference point and default part rotation or default to minimum rectangle rotation
- Import design from major CAD systems
- Import ESSI language and existing G-code programs
- Store workspaces and extracts parts from nest
- Map layers to processes (for marking and cutting) or quality settings
- Create multiple parts from a single file

Part Creation Management

- Choose from more than 190 customizable shapes that can be saved to an integrated database with user-defined fields
- Lead-in/-outs automatically applied according to material or process type
- Enable automatic internal/external contour recognition and error correction during part creation
- Calculate kerf by computer or control

Estimating Part-Cost and Time

- Automatically calculate part area, cut length, and pierce numbers
- Calculate part costs with an integrated costing model featuring user-defined parameters for machine recovery rate, operator costs, and other overhead and consumable materials
- Calculate processing time based on the nominal feed rate, material type and thickness, machine acceleration, part quality specs, rapid traverse, and head up/down movement on piercings

Manual Nesting

- Drag and drop parts onto single and multiple sheets
- Maintain part clearance with easy bump mode (including around lead-in)
- Redefine and position lead-in/-out
- Automatically update all similar parts when changing geometry
- Automatic or manual rotation and part alignment

Automatic Nesting

- Automatically nest pre-nested clusters and parts within parts
- Automatic multi-torch, rectangular, and true shape nesting
- Multiple sheet nesting on rectangular sheets
- Nest for pre-pierce, corner loops, and bevels
- Supports static nesting

NC Programming

- Automatically generate lead-in/lead-outs
- Toolpath is optimized according to machine and material type
- "Pierce on the fly" function for machines capable of this technology
- Automatically set part cut sequence from user-defined start point with manual override
- Sequence options for minimum movement, reducing heat distortion, skip cutting, and block cutting while preserving internal part sequence
- Multi-process capability
- Set for sequential or simultaneous multi-torch line cropping
- Clear NC for current or all nests, and from individual parts in a nest

Post Processing

TrueShape offers open architecture to provide users with the maximum amount of flexibility in post processor configurations.

- Creates industry standard G and M codes
- OEM-specified technology tables for standard material thickness and grade
- Uses OEM cut features on controller

Reporting

TrueShape has automatic report-generation capabilities, allowing users to create full reports in seconds. TrueShape reports include cut time estimates, material yield, and automatic job cost feedback.

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