

Formula 1

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Formula 2

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Formula 3

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Related Content

Title	Type	Slug
Cutting Tool Wear Monitoring Using Vibration & Acoustic Emission	sub_page	cutting-tool-wear-monitoring
Material-Specific Cutting Parameters Database (Aluminum 6061, Ti-6Al-4V, Inconel 718)	sub_page	material-specific-cutting-parameters
CNC Optimization Parameter Matrix (Aluminum/Ti/Inconel/Steel)	resource	cnc-parameter-matrix
GD&T Warpage Compensation Checklist	resource	gd-t-warpage-compensation-checklist
CNC Machine Rigidity Mapping Template (Excel + MATLAB script)	resource	machine-rigidity-mapping-template
Tool Path Strategy Decision Tree PDF	resource	tool-path-decision-tree

Detailed Explanation

ISO 8688-2:1989 belongs to the ISO 8688 series, which standardizes cutting data methodology and presentation. Part 2 specifically delivers ready-to-use reference tables—organized by workpiece material group, hardness range, tool material, and machining operation (e.g., turning, drilling, milling)—to guide selection of cutting speed (vc), feed (f), and depth of cut (ap) under defined tool life criteria (typically $T = 15$ or 60 minutes). These tables are empirically grounded in standardized test protocols outlined in ISO 8688-1, ensuring reproducibility across laboratories and manufacturers. The standard does not prescribe universal formulas but instead codifies industry-consensus values based on decades of machining experience and controlled experimentation, balancing productivity, surface integrity, and tool wear. While superseded in practice by modern CAM software and manufacturer-specific databases, ISO 8688-2 remains a foundational benchmark for validating new cutting data models and serves as a pedagogical and auditing resource in precision manufacturing education and quality assurance systems. Its structured format enables rapid lookup without computational overhead—a key advantage in shop-floor environments where quick, reliable decisions are critical.

Key Components

#	Component
1	Material-specific cutting parameter tables
2	Tool life criterion ($T = 15/60$ min)
3	Standardized machining operation classifications

Applications

#	Application
1	Initial setup of CNC machine tools
2	Validation of CAM-generated cutting strategies
3	Training and certification in metal cutting technology

Related Concepts

#	Concept
1	ISO 8688-1:1989 (Methodology for establishing cutting data)
2	Taylor's tool life law
3	Machinability rating

Tags

machining, tool life, cutting parameters, ISO standard, manufacturing engineering

[ISO 8688-2:1989 Cutting Data Reference Tables \(PDF\)](#)