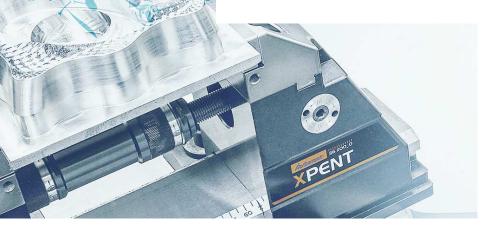
Tooldatabase-Parameter

Mastercam





Tooldatabase for "Connected Manufacturing"

Which parameter do we need and why?

Background:

- "Connected Manufacturing" is creating the "digital twin" of the existing tool and connects them with eachother
- Through this all tools can be localized and the needed data can be sent to the machine or presetting device

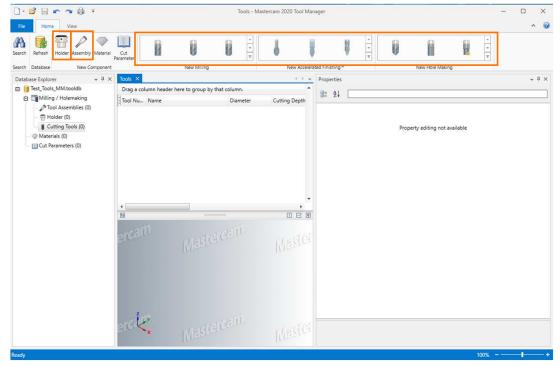
General:

- Toolassembly = Cutter + Baseholder
- If Hoffmann-Article-Numbers are maintained, the data can be automatically enriched
- Tools can be identified with "Name" or "Tool-Nr."



Toolmanager

- Before you can create a Tool Assembly you have to create a cutter and a holder first
- With the buttons "New Milling" and "New Hole Making" you can choose the type of the tool
- With "Holder" you can define a new holder
- The button "Assembly" is for creating a new Tool Assembly from one cutter and one holder





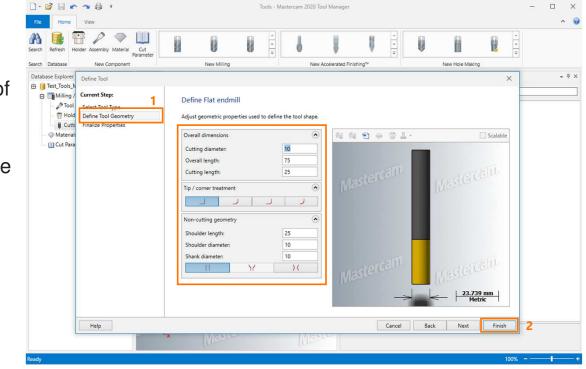
Toolmanager – Define Tool

1. Define Tool Geometry

Here you can define the geometric parameters of the tool:

- Cutting diameter (required)
- Overall length length of the tool without the holder (required)
- Cutting length (marked yellow)
- Tip / corner treatment
- Non-cutting geometry

<u>2. Finish</u> – the parameters are saved into the Toolmanager





Toolmanager – Define Tool

1 - General

Name: for a clearly identification of the cutter 1 (required)

- Catalog-ID: here you can put in the Hoffmann-Articlenumber of the cutter. With this number the information can be automatically enriched by importing the tool to CM (pictures, dimensions, materials, etc.)
- The other fields are optional

2 - Operation

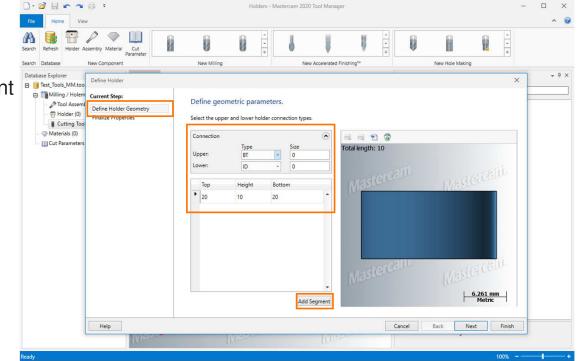
- Tool Number: for a clearly identification of the cutter, if you are working with T-No.
- Here you can fill in other optional parameters like Spindle Speed, Surface Speed, etc.
- 3 Coolant
 - With this button you can change the cooling options of the cutter (CM is checking the "Standard Coolant")

Catalog ID Catalog ID Chuck ID Description Manufacturer Name Master Manufacturer's tool code Metric IV Name 10 Fla Tool Material Carbic Variable Pitch IV Carbic Variable P	it Endmill	A Deration Coolant Cutting Speed Adjustment Diameter Offset Feed Per Tooth Feed Rate Finish Tool Finish Tool Finish XY Stepover	3 (Coolant) 100 1 0.03 120 ☑ 0
Chuck ID Image: Chuck ID Description Image: Chuck ID Manufacturer Name Master Manufacturer's tool code Image: Chuck ID Metric Image: Chuck ID Name 10 Fla Tool Material Carbie Variable Pitch Image: Chuck ID Geometry Miscellaneous	it Endmill	Miscellaneous Operation Coolant Cutting Speed Adjustment Diameter Offset Feed Per Tooth Feed Rate Finish Tool	100 1 0.03 120 V
Chuck ID Description Manufacturer Name Manufacturer's tool code Metric Name 10 Fla Tool Material Carbic Variable Pitch Geometry Miscellaneous	it Endmill	Operation Coolant Cutting Speed Adjustment Diameter Offset Feed Per Tooth Feed Rate Finish Tool	100 1 0.03 120 V
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Manufacturer's tool code Metric Variable Pitch Geometry Miscellaneous	it Endmill	Diameter Offset Feed Per Tooth Feed Rate Finish Tool	1 0.03 120 I
Metric Name 10 Fla Tool Material Carbie Variable Pitch Geometry Miscellaneous		Feed Per Tooth Feed Rate Finish Tool	0.03 120
Name 10 Fla Tool Material Carbie Variable Pitch 2 Geometry Miscellaneous		Feed Rate Finish Tool	120
Tool Material Carbie Variable Pitch Geometry Miscellaneous		Finish Tool	
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D Geometry Miscellaneous		Finish XY Stepover	0
D Geometry D Miscellaneous D Operation		· · · · · · · · · · · · · · · · · · ·	× .
		Finish Z Stepover	0
Operation		FPT Adjustment	100
		Head Number	0
Coolant (Coola	ant)	Length Offset	1
Cutting Speed Adjustment 100		Plunge Rate	600
Diameter Offset 1		Retract Rate	1200
Feed Per Tooth 0.03		Rough Tool	v
Feed Rate 120		Rough XY Stepover	0
Finish Tool		Rough Z Stepover	0
Finish XY Stepover 0			Clockwise
Finish Z Stepover 0		Spindle Direction	and a second
FPT Adjustment 100		Spindle Speed	1000
Head Number 0		Surface Speed	31.416902
1		Tool Grade	Mastercam Default 🔹 🕂



Toolmanager – Define Holder

- In "Define Holder Geometry" you can define each geometric segment of the holder
- With the button "Add Segment" a new segment can be added to the existing geometry
- In the "Connection" area you can define type and size of the machine adapter (e.g. SK40, HSK63)





Toolmanager – Define Holder

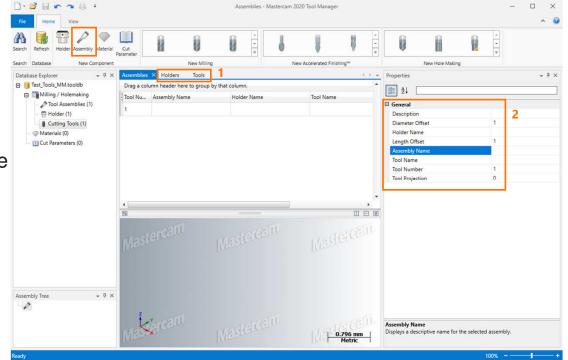
- In "Finalize Properties" you can maintain additional information
- Name: for a clearly identification of the holder (required)
- Catalog-ID: here you can put in the Hoffmann-Articlenumber of the **holder**. With this number the information can be automatically enriched by importing the tool to CM (pictures, dimensions, materials, etc.)
- With "Finish" the new holder will be saved

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Toolmanager – Create Tool Assembly

- Now an "Assembly" can be built, which is saved in CM as ToolAssembly
- You have two options to build an assembly from the created components:
 - 1. In the tabs "Tools" and "Holders" you can mark the components and pull them into the assembly via "Drag & Drop"
 - 2. The unique names of the components can be filled in "Tool Name" and "Holder Name"
- The Tool Number is filled in automatically from the tool definition
- Description: is used as name of the ToolAssembly in CM and has to be unique (required)





Toolmanager – Create Tool Assembly

- When the Assembly is created you finally have to fill in the extension length of the tool in "Tool Projection" (required)
- Now the toollibrary can be refreshed and saved

