

# Leitfaden zur Auswahl des Fertigungsverfahrens

## Subtraktive Verfahren

## Additive Verfahren (3D-Druck)

## Formativ

CNC-Bearbeitung

Blechbearbeitung

FDM  
Fused  
Deposition  
Modeling

HP MJF  
HP Multi-Jet  
Fusion

SLA  
Stereolitho-  
grafie

SLS  
Selektives  
Lasersintern

Carbon  
DLS™  
Carbon  
Digital Light  
Synthesis

DMLS  
Direktes  
Metall-  
Lasersintern

Spritzguss

|                       | CNC-Bearbeitung                       | Blechbearbeitung | FDM<br>Fused<br>Deposition<br>Modeling | HP MJF<br>HP Multi-Jet<br>Fusion | SLA<br>Stereolitho-<br>grafie | SLS<br>Selektives<br>Lasersintern | Carbon<br>DLS™<br>Carbon<br>Digital Light<br>Synthesis | DMLS<br>Direktes<br>Metall-<br>Lasersintern | Spritzguss   |       |
|-----------------------|---------------------------------------|------------------|----------------------------------------|----------------------------------|-------------------------------|-----------------------------------|--------------------------------------------------------|---------------------------------------------|--------------|-------|
| 1. Anwendungen        | Prototypen                            | ★★               | ★★★★                                   | ★★★★                             | ★★★★                          | ★★★★                              | ★★★★                                                   | ★★★★                                        | ★            |       |
|                       | Vorrichtungen, Spannzeuge & Werkzeuge | ★★★★             | ★                                      | ★★★★                             | ★★                            | ★★★★                              | ★★                                                     | ★★★★                                        | -            |       |
|                       | Produkte für Endverbraucher           | ★★★★             | ★★★★                                   | ★★                               | ★★★★                          | ★★                                | ★★★★                                                   | ★★★★                                        | ★★★★         |       |
| 2.                    | Menge Bereich                         | 1-10,000         | 1-10,000                               | 1-1,000                          | 1-1,000                       | 1-100                             | 1-1,000                                                | 1-100                                       | 500-250,000+ |       |
| 3.                    | Express-Fertigung (Tage)              | 10               | 10                                     | 3                                | 3                             | 10                                | 3                                                      | 5                                           | 3            | 10-20 |
| 4. Materialien        | Auswahl an Metallen                   | ★★★★             | ★★                                     | -                                | -                             | -                                 | -                                                      | -                                           | ★            | -     |
|                       | Auswahl an Kunststoffen               | ★★★★             | -                                      | ★★                               | ★                             | ★★★★                              | ★                                                      | ★★                                          | -            | ★★★★  |
| 5. Fertigungsfaktoren | Komplexe Geometrie                    | ★★               | ★                                      | ★★                               | ★★★★                          | ★★★★                              | ★★★★                                                   | ★★★★                                        | ★★★★         | ★★★★  |
|                       | Mengenrabatt                          | ★★★★             | ★★                                     | ★                                | ★★★★                          | ★★                                | ★★                                                     | ★★★★                                        | ★★           | ★★★★  |
|                       | Skalierbarkeit                        | ★★★★             | ★★                                     | ★                                | ★★★★                          | ★★★★                              | ★★★★                                                   | ★★★★                                        | ★★           | ★★★★  |
|                       | Fertigungstoleranz                    | ★★★★             | ★★                                     | ★★                               | ★★                            | ★★★★                              | ★★                                                     | ★★★★                                        | ★★★★         | ★★★★  |
|                       | Gut für kleine Bauteile               | ★★               | ★★                                     | ★                                | ★★                            | ★★★★                              | ★★                                                     | ★★★★                                        | ★★★★         | ★★★★  |
|                       | Gut für große Bauteile                | ★★★★             | ★★★★                                   | ★★★★                             | ★★                            | ★★                                | ★★                                                     | -                                           | ★★           | ★★★★  |

★ - Gut    ★★ - Besser    ★★★★ - Beste