

# HP 3D High Reusability CB PA 12

Engineering-grade white parts



## Strong, functional complex parts

- Robust thermoplastic produces high-density parts with balanced property profiles and strong structures.
- Provides excellent chemical resistance to oils, greases, aliphatic hydrocarbons, and alkalis.<sup>1</sup>
- Ideal for white parts like jigs, fixtures, labeling, presentation models, functional prototypes.

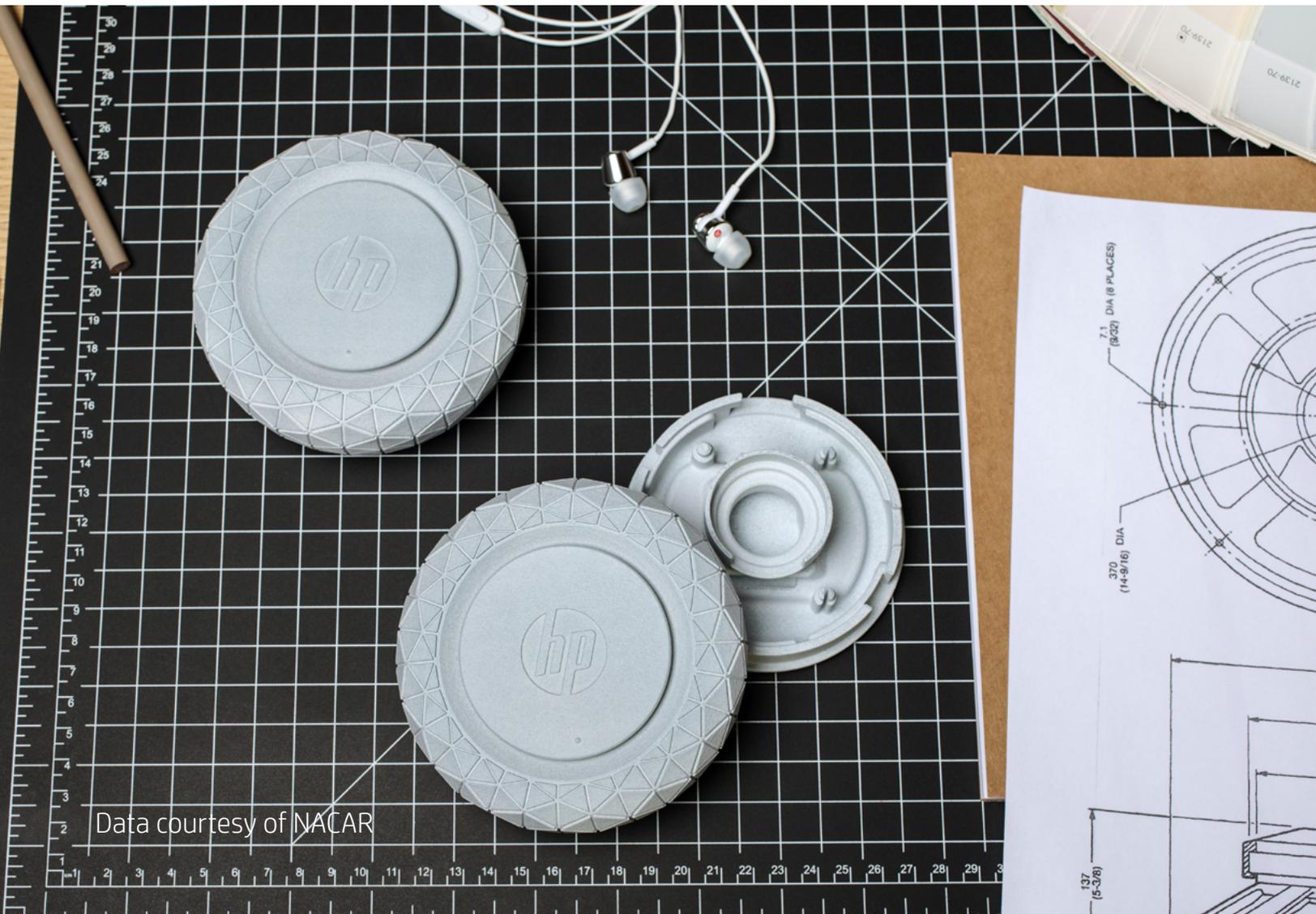
## Quality parts without trade-offs

- Produce functional white parts with optimal mechanical properties.
- Get consistent performance while achieving up to 80% surplus powder reusability.<sup>2</sup>
- Optimize cost and quality with functional white parts and industry-leading reusability.<sup>3</sup>

## Engineered for HP Multi Jet Fusion technology

- Designed for production of white functional parts across a variety of industries.
- Provides the best balance between performance and reusability.<sup>4</sup>
- Engineered to produce functional prototypes with fine detail and dimensional accuracy.

For more information, please visit  
[hp.com/go/3DMaterials](https://hp.com/go/3DMaterials)



Data courtesy of NACAR

## General properties

Category	Measurement	Value	Method
General properties	Powder melting point (DSC)	189° C/372.2° F	DIN EN ISO 11357
	Particle size	58 µm	ISO 8130/13
	Bulk density of powder	0.442 g/cm <sup>3</sup> /0.016 lb/in <sup>3</sup>	ISO 60
	Density of parts	1.03 g/cm <sup>3</sup> /0.037 lb/in <sup>3</sup>	ASTM D792
Reusability	Minimum refresh ratio for stable performance	20%	

## Technical specifications<sup>5</sup>

### HP Jet Fusion 540 3D Printer

Category	Measurement	Value	Method
Mechanical properties	Tensile strength, max load, <sup>6</sup> XY	46 MPa	ASTM D638
	Tensile strength, max load, <sup>6</sup> Z	46 MPa	ASTM D638
	Tensile modulus, <sup>6</sup> XY	1600 MPa	ASTM D638
	Tensile modulus, <sup>6</sup> Z	1700 MPa	ASTM D638
	Elongation at break, <sup>6</sup> XY	20%	ASTM D638
	Elongation at break, <sup>6</sup> Z	14%	ASTM D638
	Izod impact notched (@3.2 mm, 23° C), XY	3.1 kJ/m <sup>2</sup>	ASTM D256 Test Method A
	Izod impact notched (@3.2 mm, 23° C), Z	2.8 kJ/m <sup>2</sup>	ASTM D256 Test Method A

## Ordering information

HP 3D High Reusability CB PA 12	
Product number	V1R30A
Weight	4 Kg/8.8 lb
Capacity	10L <sup>7</sup>
Dimensions (xyz)	462 x 213 x 208 mm (18.2 x 8.4 x 8.2 in)
Compatibility	HP Jet Fusion 500 Series 3D Printers

### Eco Highlights

- Powders and agents are not classified as hazardous<sup>8</sup>
- Cleaner, more comfortable workplace—enclosed printing system, and automatic powder management<sup>9</sup>
- Minimizes waste due to industry-leading reusability of powder<sup>10</sup>

Find out more about HP sustainable solutions at [hp.com/ecosolutions](http://hp.com/ecosolutions)

Dynamic security enabled printer. Only intended to be used with cartridges using an HP original chip. Cartridges using a non-HP chip may not work, and those that work today may not work in the future. More at: [hp.com/go/learnaboutsolutions](http://hp.com/go/learnaboutsolutions)



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1. Tested with diluted alkalis, concentrated alkalis, chlorine salts, alcohol, ester, ethers, ketones, aliphatic hydrocarbons, unleaded petrol, motor oil, aromatic hydrocarbons, toluene, and DOT 3 brake fluid.
2. HP Jet Fusion 3D Printing Solutions using HP 3D High Reusability CB PA 12 provide up to 80% post-production surplus powder reusability, producing functional parts batch after batch. For testing, material is aged in real printing conditions and powder is tracked by generations (worst case for reusability). Parts are then made from each generation and tested for mechanical properties and accuracy.
3. Based on using recommended packing densities and compared to selective laser sintering (SLS) technology, offers excellent reusability without sacrificing mechanical performance. Tested according to ASTM D638, ASTM D256, ASTM D790, and ASTM D648 and using a 3D scanner for dimensional accuracy. Testing monitored using statistical process controls.
4. Compared to selective laser sintering (SLS) technology. Tested according to ASTM D638, ASTM D256, ASTM D790, and ASTM D648.
5. The following technical information should be considered representative of averages or typical values for white parts (i.e., RGB=255,255,255) and should not be used for specification purposes. These values refer to a Balanced print mode. Values shown are preliminary, subject to change without notice.
6. Test results realized under the ASTM D638 with a test rate of 10 mm/min, specimens type V.
7. Liters refers to the materials container size and not the actual materials volume. Materials are measured in kilograms.
8. The HP powder and agents do not meet the criteria for classification as hazardous according to Regulation (EC) 1272/2008 as amended.
9. Compared to manual print retrieval process used by other powder-based technologies. The term "cleaner" does not refer to any indoor air quality requirements and/or consider related air quality regulations or testing that may be applicable.
10. Compared to PA 12 materials available as of June, 2017. HP Jet Fusion 3D Printing Solutions using HP 3D High Reusability CB PA 12 provide up to 80% post-production surplus powder reusability, producing functional parts batch after batch.

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