



Specification

Title:	Diamond Blade
Specification No:	CSDA-DB-112
Effective Date:	Sept 15, 2006
Revised:	Sept 24, 2019

1. General

This specification details the appropriate components involved in the design of a diamond blade. There are many variables in the cutting equation that can affect the performance of a diamond blade, including machine horsepower, blade shaft rpm, size of aggregate used in concrete, hardness of aggregate, the strength of the concrete, the depth of cut attempted per pass, and the experience and capabilities of the operator. A blade manufacturer must consider all these variables and more when designing a diamond blade for specific and general-purpose applications.

2. Table

The table on the next page provides general guidelines for the design specifications of diamond blades taking into consideration some of the variables mentioned above.

This document has been developed or is provided by the Concrete Sawing & Drilling Association, Inc. It is intended as a guideline, sample specification, or recommended practice for use by fully qualified, trained, professional personnel who are otherwise competent to evaluate the significance of its use within the context of specific concrete sawing and drilling projects. No express or implied warranty is made with respect to the foregoing including without limitation any implied warranty of fitness or applicability for a particular purpose. The Concrete Sawing & Drilling Association, Inc. and all contributors of this document shall not be liable for damages of any kind arising out of the use of this document, and, further specifically disclaims any and all responsibility and liability for the accuracy and application of the information contained in this document to the fullest extent permitted by law. In accepting this document, user agrees to accept sole responsibility for its application.

Saw	Blade	Segment	Moh's Hardness	Diamond	Diamond	Diamond	Segment Coverage of	Diamond
Horsepower	Diameter	Thickness	of Aggregate	Concentration ¹	Size ¹	Grade ²	Blade Periphery	Depth of Segment
(HP)	(inches)	(inches)			(mesh)		(%)	(inches)
5 to 18	14 to 20	0.125 to 0.140	4 to 6	15 - 20	30-50	low - med	75 - 80	0.300 to 0.400
5 to 18	14 to 20	0.125 to 0.140	7 to 9	17 - 22	35-50	med - high	75 - 80	0.300 to 0.400
20 to 35	14 to 20	0.125 to 0.140	4 to 6	16 - 35	30-50	med - high	78 - 85	0.300 to 0.400
20 to 35	14 to 20	0.125 to 0.140	7 to 9	25 - 40	35-50	high	78 - 85	0.300 to 0.400
20 to 35	14 to 20	0.165 to 0.250	4 to 6	16 - 35	30-50	med - high	78 - 85	0.300 to 0.400
20 to 35	14 to 20	0.165 to 0.250	7 to 9	25 - 40	35-50	high	78 - 85	0.300 to 0.400
20 to 35	24 to 32	0.155 to 0.187	4 to 6	16 - 35	30-50	med - high	75 - 82	0.300 to 0.400
20 to 35	24 to 32	0.155 to 0.187	7 to 9	25 - 40	35-50	high	75 - 82	0.300 to 0.400
20 to 35	24 to 32	0.210 to 0.250	4 to 6	16 - 35	30-50	med - high	75 - 82	0.300 to 0.400
20 to 35	24 to 32	0.210 to 0.250	7 to 9	25 - 40	35-50	high	75 - 82	0.300 to 0.400
37 and up	14 to 20	0.125 to 0.155	4 to 6	28 - 45	30-50	med - high	80 - 85	0.300 to 0.450
37 and up	14 to 20	0.125 to 0.155	7 to 9	40 - 70	35-50	high	80 - 85	0.300 to 0.450
37 and up	14 to 20	0.165 to 0.250	4 to 6	28 - 45	30-50	med - high	80 - 85	0.300 to 0.450
37 and up	14 to 20	0.165 to 0.250	7 to 9	40 - 70	35-50	high	80 - 85	0.300 to 0.450
37 and up	20 to 32	0.155 to 0.187	4 to 6	28 - 45	30-50	med - high	75 - 82	0.300 to 0.450
37 and up	20 to 32	0.155 to 0.187	7 to 9	40 - 70	35-50	high	75 - 82	0.300 to 0.450
37 and up	34 to 48	0.187 to 0.250	4 to 6	28 - 45	30-50	med - high	60 - 75	0.300 to 0.450
37 and up	34 to 48	0.187 to 0.250	7 to 9	40 - 70	35-50	high	60 - 75	0.300 to 0.450

Notes:

1. **Concentration/Size:**Based on 100 con = 72 carats of diamond per cubic inch of segment

2. **Diamond Grade:** High = MBS 960 or SDB 1100
Med = MBS 940 or SDB 1075
Low = MBS 920 or SDB 1045

3. **Steel Core:** Grade: 4130 or 4135 steel or equivalent
Hardness: RC 36 - 42
ID: 1.005" + 0.002/-0.000
Tension: Min 0.002 inch and max 0.008 inch (45lbs @ 90 degrees)
Side run-out: 0.0005 inch per diameter inch
OD run-out: 0.005 inch

Spec. No.	Title	Effective Date	Revised	Page
CSDA-DB-112	Diamond Blade	Sept 15, 2006	Sept 24, 2019	Page 2 of 2