

CSDA Specification

Title: Diamond Blade
Standard No: CSDA-DB-112
Effective Date: Sep 15, 2006
Revised:



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 of 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 account some of the variables mentioned above.

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CSDA-DB-112 Diamond Blade

Saw Horsepower (HP)	Blade Diameter (inches)	Segment Thickness (inches)	Moh's Hardness of Aggregate	Diamond Concentration ¹	Diamond Size ¹ (mesh)	Diamond Grade ²	Segment Coverage of Blade Periphery (%)	Diamond Depth of Segment (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:

- Concentration/Size:** Based on 100 con = 72 carats of diamond per cubic inch of segment
- Diamond Grade:** High = MBS 960 or SDB 1100
Med = MBS 940 or SDB 1075
Low = MBS 920 or SDB 1045
- 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

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