



# DIAMOND CHAIN LIFE

THE MOST IMPORTANT THING YOU CAN DO TO OPTIMIZE DIAMOND CHAIN LIFE IS TO SELECT THE CORRECT DIAMOND CHAIN FOR THE MATERIAL YOU ARE CUTTING.

Diamond Chain Selection Chart										
	TwinMAX	TwinMAX Plus	TwinMAX Abrasive	TwinPRO	PremiumPRO	AbrasivePRO	SoftPRO	CornerPRO	PRK SS	PRK LL
Hard Reinforced Concrete		■			■		■		■	■
Medium Concrete	■	■		■	■		■		■	■
Brick	■	■	■	■	■	■			■	■
Natural Stone	■	■		■	■				■	■
Soft Abrasive	■		■	■		■				
Following Wall Saw								■		
Over-all Chain Life	◆◆◆	◆◆◆	◆◆◆	◆◆◆	◆◆◆◆◆	◆◆◆	◆◆	◆◆◆	◆◆	◆◆◆
Cutting Speed	◆◆◆	◆◆	◆◆◆	◆◆◆	◆◆◆	◆◆◆	◆◆◆◆	◆◆◆	◆◆◆◆◆	◆◆◆

## FACTORS AFFECTING CHAIN LIFE

### PRIMARY LIFE AND RELIABILITY FACTORS

Cutting Conditions	Chain Life Affect	
	More Wear	Less Wear
WATER PRESSURE	Low psi (bar)	High psi (bar)
CHAIN SPEED	Faster	Slower

### PRIMARY LIFE FACTORS

Cutting Conditions	Chain Life Affect	
	More Wear	Less Wear
AGGREGATE HARDNESS	Hard Flint	Soft Limestone
STEEL REINFORCING	Heavy Steel	Light Steel
AGGREGATE SIZE	Large Rock	Smaller Rock
SAND SHAPE	Sharp Quarried	Round River
CONCRETE AGE	GREEN concrete	Less Than 2 Days Old                      Over 30 Days Old CURED concrete
CUTTING MODE	Plunge Cut	Slab Cut
CUTTING DIRECTION	Horizontal Cut	Vertical Cut
CUTTING TECHNIQUE	Impact Cutting	Smooth Cutting

All of the following factors can negatively affect chain life:

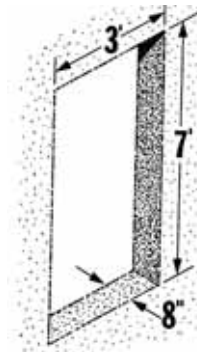
- Steel Reinforcing...many pieces or large diameter rebar causes reduced life.
- Aggregate Hardness...harder aggregates cause reduced life.
- Operator Experience...first time users generally get less chain life.

## INCH-FOOT DEFINITION

- An in-ft is defined as: DEPTH of cut in inches times LENGTH of cut in feet.
- 1 sq-ft = 12 in-ft = 144 sq-in (1 sq-m = 129 in-ft)

Example: Determine how many in-ft are in this doorway.

1. Determine the depth of the cut in inches. For this example, 8 inches.
2. Determine the length of the cut in feet. 3 + 7 + 3 + 7 = 20 feet
3. Multiply the two numbers. 8 in x 20 ft = 160 in-ft





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## COMMON ICS DIAMOND CHAIN LIFE ESTIMATES

### IMPORTANT

1. Concrete saw model & diamond chain selection are assumed correct for job/aggregate/material type
2. Life varies greatly with 3 major factors: Amount of Steel, Operator Training, and Material/Application
3. Ranges are for general understanding and NOT to be used for job bids

### Gas Saws

	Chain Type	0 in-Ft	200 in-Ft	400 in-Ft	600 in-Ft	800 in-Ft	1000 in-Ft	1500 in-Ft
613/633GC	TwinMAX							
	TwinMAX Abrasive							
	Twin MAX Plus							

### Hydraulic Saws

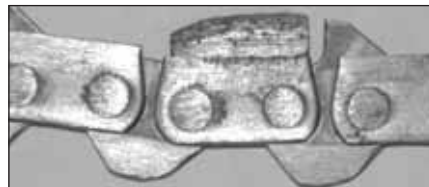
	Chain Type	0 in-Ft	200 in-Ft	400 in-Ft	600 in-Ft	800 in-Ft	1000 in-Ft	1500 in-Ft
853PRO	PremiumPRO							
	TwinPRO							
	AbrasivePRO							

## CHAIN WEAR EXAMPLES



#### NORMAL WEAR

Example of a worn out chain under normal usage. No damage to the chassis, drive links or segments. Segments have been worn down to the weld pad.



#### RUN BACKWARDS

Evidence that chain has been run backwards: Wear at back of segment and bond trails extend in wrong direction.



#### WORN BAR

Chain has been run on a bar that has excessive rail wear causing the drive links to be worn flat.



#### WORN SPROCKET / IMPROPER TENSION

Chain has been run with improper tension (too loose) or drive sprocket is worn out. Sprocket was turning when the chain was stationary, causing damage to the drive links.



#### NO WATER

Heat generated by running a chain "dry" can disintegrate o-rings and degrade the diamonds. Drive links are dark blue and connecting links have burred edge on the bottom.



#### IMPACT DAMAGE

Broken segment caused by attempting to insert the chain into a slot narrower than the diamond segments.