

ARB Approved Engine Families for the Cleaire Allmetal™ System

CARB Verification Number: CA/CLE/2009/PM3+/N00/OF/DPF02

Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
1996	Cummins	TCE505R6DTRA
1996	Cummins	TCE505R6DTRB
1996	Cummins	TCE505R6DTRC
1996	Caterpillar	TCP14.RZDBRJ
1996	Caterpillar	TCP7.2RZDBRB
1996	Caterpillar	TCP7.2RZDBRC
1996	Deutz	TDZ16.RGDARA
1996	Deutz	TDZ16.RGDARB
1996	Deutz	TDZ7.1R6DARA
1996	Deere	TJD10.R6DBRA
1996	Deere	TJD10.R6DBRB
1996	Deere	TJD6.8R6DBRC
1996	Deere	TJD6.8R6DBRD
1996	Deere	TJD7.6R6DBRA
1996	Deere	TJD7.6R6DBRB
1996	Deere	TJD8.1R6DBRA
1996	Deere	TJD8.1R6DBRC
1996	Komatsu Dresser	TKD505R6DTRA
1996	Komatsu Dresser	TKD505R6DTRC
1996	Komatsu	TKL11.RZDARA
1996	Komatsu	TKL11.RZDARB
1996	Komatsu	TKL11.RZDARC
1996	Komatsu	TKL15.RZDARB
1996	Komatsu	TKL15.RZDARC
1996	Mercedes-Benz	TMB15.R6DARA
1996	Mercedes-Benz	TMB22.R6DARA
1996	Mitsubishi Motors	TMT460D6DARA
1996	Mitsubishi Motors	TMT729E6DARC
1996	New Holland	TNH7.5R6DARA
1996	International	TNV466R6DASC
1996	Iveco	TVE14.R6DARA
1996	Iveco	TVE7.7R6DARA
1996	Iveco	TVE9.5R6DASA
1996	Case	TX9505R6DTRA
1996	Case	TX9505R6DTRB
1996	Case	TX9505R6DTRC
1997	Cummins	VCE505R6DTRB
1997	Cummins	VCE505R6DTRC
1997	Caterpillar	VCP10.RZDARD
1997	Caterpillar	VCP10.RZDARG
1997	Caterpillar	VCP18.RZDARN
1997	Caterpillar	VCP7.0RZDARB
1997	Caterpillar	VCP7.2RZDARB
1997	Caterpillar	VCP7.2RZDARC
1997	Daewoo	VDW11.R6DARA
1997	Deutz	VDZ16.RGDARB
1997	Deutz	VDZ18.RGDARA
1997	Deutz	VDZ7.1R6DARA
1997	Deere	VJD10.R6DBRA
1997	Deere	VJD10.R6DBRB
1997	Deere	VJD6.8R6DBRA
1997	Deere	VJD6.8R6DBRB

Table 2

Model Year	Manufacturer	Engine Family
1996	Cummins	TCE505R6DTRD
1996	Cummins	TCE661RGDTRA
1996	Cummins	TCE855RGDTRA
1996	Cummins	TCE855RJDTRA
1996	Caterpillar	TCP10.RZDBRD
1996	Caterpillar	TCP10.RZDBRF
1996	Caterpillar	TCP10.RZDBRK
1996	Caterpillar	TCP12.RZDBRM
1996	Caterpillar	TCP14.RZDBRC
1996	Caterpillar	TCP14.RZDBRK
1996	Caterpillar	TCP18.RZDBRK
1996	Caterpillar	TCP18.RZDBRN
1996	Caterpillar	TCP7.2RZDBRK
1996	Detroit Diesel Corporation	TDD11.TJDARE
1996	Detroit Diesel Corporation	TDD12.TJDARE
1996	Detroit Diesel Corporation	TDD8.5TJDARE
1996	Deutz	TDZ7.1R6DARB
1996	Generac Corporation	TGN13.R6DARA
1996	Deere	TJD10.RJDBRA
1996	Deere	TJD10.RJDBRB
1996	Deere	TJD12.RJDBRA
1996	Deere	TJD8.1R6DBRB
1996	Komatsu	TKL15.RZDARA
1996	Liebherr	TLH17.R6DARA
1996	Liebherr	TLH9.9R6DARA
1996	Liebherr	TLH9.9R6DASA
1996	Mercedes-Benz	TMB13.R6DARA
1996	International	TNV466R6DARA
1996	International	TNV466R6DARB
1996	International	TNV466R6DASD
1996	International	TNV530R6DARA
1996	International	TNV530R6DARB
1996	International	TNV530R6DASC
1996	International	TNV530R6DASD
1996	International	TNV530R8DASE
1996	Iveco	TVE9.5R6DARA
1996	Volvo Construction Equipment	TVS12.R6DARA
1996	Volvo Construction Equipment	TVS16.R6DARA
1996	Volvo Construction Equipment	TVS6.7R6DARA
1996	Volvo Construction Equipment	TVS9.6R6DARA
1997	Cummins	VCE505R6DTRD
1997	Cummins	VCE661RGDTRA
1997	Cummins	VCE855RGDTRA
1997	Cummins	VCE855RJDTRA
1997	Caterpillar	VCP10.RZDARK
1997	Caterpillar	VCP12.RZDARM
1997	Caterpillar	VCP14.RZDARC
1997	Caterpillar	VCP14.RZDARK
1997	Caterpillar	VCP18.RZDARK
1997	Caterpillar	VCP442DZDARK
1997	Caterpillar	VCP7.2RZDARK
1997	Detroit Diesel Corporation	VDD11.TJDARE

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over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
1997	Deere	VJD6.8R6DBRC
1997	Deere	VJD6.8R6DBRD
1997	Deere	VJD7.6R6DBRA
1997	Deere	VJD7.6R6DBRB
1997	Deere	VJD8.1R6DBRA
1997	Deere	VJD8.1R6DBRB
1997	Deere	VJD8.1R6DBRC
1997	Komatsu	VKD505R6DTRA
1997	Komatsu	VKD505R6DTRC
1997	DaimlerChrysler	VMB15.R6DARA
1997	DaimlerChrysler	VMB22.R6DARA
1997	Mitsubishi Motors	VMT460R6DARA
1997	Mitsubishi Motors	VMT729R6DARC
1997	New Holland	VNH7.5R6DARA
1997	Isuzu	VSZ9.8R6DARB
1997	Iveco	VVE14.R6DARA
1997	Iveco	VVE7.7R6DARA
1997	Iveco	VVE9.5R6DASA
1997	AB Volvo Penta	VVP6.7R6DASA
1997	AB Volvo Penta	VVP9.6R6DASA
1997	Case	VX9505R6DTRA
1997	Case	VX9505R6DTRB
1997	Case	VX9505R6DTRC
1998	Cummins	WCEXL0505AAA
1998	Cummins	WCEXL0505ABA
1998	Cummins	WCEXL0505ABB
1998	Cummins	WCEXL0505ACA
1998	Caterpillar	WCPXL07.0MRB
1998	Caterpillar	WCPXL07.2MRB
1998	Caterpillar	WCPXL07.2MRC
1998	Caterpillar	WCPXL10.5MRD
1998	Caterpillar	WCPXL18.0HRN
1998	Daewoo	WDWXL11.1AHT
1998	Deutz	WDZXL07.1003
1998	Deutz	WDZXL17.5015
1998	Deere	WJDXL06.8012
1998	Deere	WJDXL06.8013
1998	Deere	WJDXL06.8014
1998	Deere	WJDXL06.8015
1998	Deere	WJDXL07.6010
1998	Deere	WJDXL07.6011
1998	Deere	WJDXL08.1007
1998	Deere	WJDXL08.1008
1998	Deere	WJDXL08.1009
1998	Deere	WJDXL10.1005
1998	Deere	WJDXL10.1006
1998	Komatsu Dresser	WKDXL0505AAA
1998	Komatsu Dresser	WKDXL0505ABB
1998	Komatsu	WKLXL11.0DA1
1998	Komatsu	WKLXL11.0DB1
1998	Komatsu	WKLXL11.0DC1
1998	Komatsu	WKLXL15.2ED1

Table 2

Model Year	Manufacturer	Engine Family
1997	Detroit Diesel Corporation	VDD12.TJDARE
1997	Detroit Diesel Corporation	VDD8.5TJDARE
1997	Daewoo	VDW14.6R6ARA
1997	Deutz	VDZ16.RGDARA
1997	Deutz	VDZ7.1R6DARB
1997	Generac Corporation	VGN13.R6DARA
1997	Deere	VJD10.RJDBRA
1997	Deere	VJD10.RJDBRB
1997	Deere	VJD12.RJDBRA
1997	Deere	VJD12.RJDBRB
1997	Liebherr	VLH17.R6DARA
1997	Liebherr	VLH9.9R6DARA
1997	Liebherr	VLH9.9R6DASA
1997	DaimlerChrysler	VMB13.R6DARA
1997	International	VNV466R6DASC
1997	International	VNV466R6DASD
1997	International	VNV530R6DARA
1997	International	VNV530R6DARB
1997	International	VNV530R6DASC
1997	International	VNV530R6DASD
1997	International	VNV530R8DARA
1997	International	VNV530R8DASC
1997	International	VNV530R8DASE
1997	Iveco	VVE9.5R6DARA
1997	AB Volvo Penta	VVP12.R6DARA
1997	AB Volvo Penta	VVP6.7R6DARA
1997	Volvo Construction Equipment	VVS12.R6DARA
1997	Volvo Construction Equipment	VVS16.R6DARA
1997	Volvo Construction Equipment	VVS6.7R6DARA
1997	Volvo Construction Equipment	VVS9.6R6DARA
1998	Cummins	WCEXL0505ABC
1998	Cummins	WCEXL0661AAA
1998	Cummins	WCEXL0855AAA
1998	Cummins	WCEXL0855AAB
1998	Caterpillar	WCPXL07.2HRK
1998	Caterpillar	WCPXL10.3ERK
1998	Caterpillar	WCPXL10.5MRG
1998	Caterpillar	WCPXL12.0ERM
1998	Caterpillar	WCPXL14.6ERK
1998	Caterpillar	WCPXL15.8ERK
1998	Caterpillar	WCPXL18.0HRK
1998	Detroit Diesel Corporation	WDDXL08.5TJD
1998	Detroit Diesel Corporation	WDDXL11.1THD
1998	Detroit Diesel Corporation	WDDXL12.7TGD
1998	Detroit Diesel Corporation	WDDXL15.9TRE
1998	Daewoo	WDWXL11.1BHT
1998	Daewoo	WDWXL11.1BIA
1998	Daewoo	WDWXL14.6CVT
1998	Deutz	WDZXL07.1004
1998	Deutz	WDZXL15.9001
1998	Deutz	WDZXL15.9002

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over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
1998	Komatsu	WKLXL7.15CC1
1998	Mercedes-Benz	WMBXL14.6R6A
1998	Daimler-Benz	WMBXL14.6R6B
1998	Mercedes-Benz	WMBXL21.9R6A
1998	Mitsubishi Motors	WMTXL07.5D6A
1998	Detroit Diesel Corporation	WMUXL12.0G2V
1998	New Holland	WNHXL07.5A3V
1998	Isuzu	WSZXL09.8DTB
1998	Iveco	WVEXL07.7DAR
1998	Iveco	WVEXL09.5DAS
1998	Iveco	WVEXL13.8DAR
1998	AB Volvo Penta	WVPXL06.7AAA
1998	AB Volvo Penta	WVPXL09.6AAA
1998	Case	WX9XL0505AAA
1998	Case	WX9XL0505ABA
1998	Case	WX9XL0505ABB
1998	Case	WX9XL0505ACA
1999	Cummins	XCEXL0505AAA
1999	Cummins	XCEXL0505ABA
1999	Cummins	XCEXL0505ABB
1999	Cummins	XCEXL0505ACA
1999	Caterpillar	XCPXL07.0MRB
1999	Caterpillar	XCPXL07.2MRB
1999	Caterpillar	XCPXL07.2MRC
1999	Caterpillar	XCPXL10.5MRG
1999	Caterpillar	XCPXL18.0HRN
1999	Daewoo	XDWXL14.6CVT
1999	Deutz	XDZXL17.5001
1999	Hino	XHMXL08.8PTD
1999	Deere	XJDXL06.8012
1999	Deere	XJDXL06.8013
1999	Deere	XJDXL06.8014
1999	Deere	XJDXL06.8015
1999	Deere	XJDXL08.1007
1999	Deere	XJDXL08.1008
1999	Deere	XJDXL08.1009
1999	Deere	XJDXL08.1019
1999	Deere	XJDXL08.1024
1999	Deere	XJDXL10.1006
1999	Komatsu Dresser	XKDXL0505AAA
1999	Komatsu Dresser	XKDXL0505ABB
1999	Komatsu Dresser	XKDXL0505ACA
1999	Komatsu	XKLXL11.0DA1
1999	Komatsu	XKLXL11.0DB1
1999	Komatsu	XKLXL15.2ED1
1999	Komatsu	XKLXL7.15CC1
1999	DaimlerChrysler	XMBXL14.6R6A
1999	DaimlerChrysler	XMBXL14.6R6B
1999	DaimlerChrysler	XMBXL21.9R6A
1999	Mitsubishi Motors	XMTXL07.5D6A
1999	Mitsubishi Motors	XMTXL07.5D6C
1999	Mitsubishi Motors	XMTXL11.9D6A

Table 2

Model Year	Manufacturer	Engine Family
1998	Generac Corporation	WGNXL13.3HTA
1998	Deere	WJDXL10.5003
1998	Deere	WJDXL10.5004
1998	Deere	WJDXL12.5001
1998	Deere	WJDXL12.5002
1998	Komatsu	WKLXL15.2EB1
1998	Komatsu	WKLXL15.2EC1
1998	Komatsu	WKLXL7.15CB1
1998	Liebherr	WLHAL17.2ARA
1998	Liebherr	WLHAL17.2ATA
1998	Liebherr	WLHAL9.96ARA
1998	Liebherr	WLHAL9.96ASA
1998	Liebherr	WLHAL9.96ATA
1998	Mercedes-Benz	WMBXL12.9R6A
1998	International	WNVXL0466BNA
1998	International	WNVXL0530ANA
1998	International	WNVXL0530ANB
1998	International	WNVXL0530BNA
1998	International	WNVXL0530BNB
1998	International	WNVXL0530BNC
1998	International	WNVXL0530BND
1998	Iveco	WVEXL09.5DAR
1998	AB Volvo Penta	WVPXL06.7ABA
1998	AB Volvo Penta	WVPXL09.6ABA
1998	AB Volvo Penta	WVPXL09.6ACB
1998	AB Volvo Penta	WVPXL12.0ABA
1998	AB Volvo Penta	WVPXL12.0ACB
1998	Volvo Construction Equipment	WVSXL06.7CE1
1998	Volvo Construction Equipment	WVSXL09.6CE1
1998	Volvo Construction Equipment	WVSXL12.0CE1
1998	Volvo Construction Equipment	WVSXL16.0CE1
1998	Case	WX9XL0505ABC
1999	Cummins	XCEXL0505ABC
1999	Cummins	XCEXL0661AAA
1999	Cummins	XCEXL0661AAB
1999	Cummins	XCEXL0855AAA
1999	Cummins	XCEXL0855AAB
1999	Caterpillar	XCPXL07.2HRK
1999	Caterpillar	XCPXL10.3ERK
1999	Caterpillar	XCPXL10.5MRD
1999	Caterpillar	XCPXL11.5MRF
1999	Caterpillar	XCPXL12.0ERM
1999	Caterpillar	XCPXL14.6ERK
1999	Caterpillar	XCPXL14.6MRC
1999	Caterpillar	XCPXL15.8ERK
1999	Caterpillar	XCPXL18.0HRK
1999	Detroit Diesel Corporation	XDDXL08.5TJD
1999	Detroit Diesel Corporation	XDDXL11.1THD
1999	Detroit Diesel Corporation	XDDXL12.7TGD
1999	Detroit Diesel Corporation	XDDXL15.9TRE
1999	Daewoo	XDWXL11.1BHT
1999	Daewoo	XDWXL11.1BIA

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over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
1999	New Holland	XNHXL07.5A3V
1999	Isuzu	XSZXL09.8DTB
1999	Iveco	XVEXL07.7DAR
1999	Iveco	XVEXL13.8DAR
1999	AB Volvo Penta	XVPXL06.7AAA
1999	AB Volvo Penta	XVPXL09.6AAA
1999	Volvo Construction Equipment	XVSXL06.7CE1
1999	Case	XX9XL0505AAA
1999	Case	XX9XL0505ABA
1999	Case	XX9XL0505ABB
1999	Case	XX9XL0505ACA
2000	Cummins	YCEXL0505AAA
2000	Cummins	YCEXL0505ABA
2000	Cummins	YCEXL0505ABB
2000	Cummins	YCEXL0505ACA
2000	Caterpillar	YCPXL07.0MRB
2000	Caterpillar	YCPXL07.2MRB
2000	Caterpillar	YCPXL10.5MRD
2000	Caterpillar	YCPXL18.0HRN
2000	Deutz	YDZXL07.1004
2000	Deutz	YDZXL17.5001
2000	Hino	YHMXL06.7HTD
2000	Hino	YHMXL08.8PTD
2000	Deere	YJDXL06.8012
2000	Deere	YJDXL06.8013
2000	Deere	YJDXL06.8014
2000	Deere	YJDXL06.8015
2000	Deere	YJDXL08.1007
2000	Deere	YJDXL08.1009
2000	Deere	YJDXL08.1019
2000	Deere	YJDXL08.1024
2000	Deere	YJDXL10.1006
2000	Komatsu	YKLXL0505ABB
2000	Komatsu	YKLXL0505ACA
2000	Komatsu	YKLXL11.0DA1
2000	Komatsu	YKLXL11.0DB1
2000	Komatsu	YKLXL11.0DC1
2000	Komatsu	YKLXL15.2ED1
2000	Komatsu	YKLXL7.15CC1
2000	DaimlerChrysler	YMBXL14.6R6A
2000	DaimlerChrysler	YMBXL14.6R6B
2000	DaimlerChrysler	YMBXL21.9R6A
2000	Mitsubishi Motors	YMTXL07.5D6C
2000	Mitsubishi Motors	YMTXL11.9D6A
2000	New Holland	YNHXL07.5A3V
2000	Isuzu	YSZXL09.8ATB
2000	Iveco	YVEXL07.7DAR
2000	Iveco	YVEXL13.8DAR
2000	AB Volvo Penta	YVPXL06.7AAA
2000	AB Volvo Penta	YVPXL09.6AAA
2000	Volvo Construction Equipment	YVSXL06.7CE1
2000	Case	YX9XL0505ABA

Table 2

Model Year	Manufacturer	Engine Family
1999	Deutz	XDZXL07.1004
1999	Deutz	XDZXL07.1005
1999	Deutz	XDZXL15.9002
1999	Deutz	XDZXL15.9003
1999	Iveco	XEVXL09.5DAR
1999	Generac Corporation	XGNXL13.3HTA
1999	Deere	XJDXL10.5003
1999	Deere	XJDXL10.5004
1999	Deere	XJDXL10.5022
1999	Deere	XJDXL12.5001
1999	Deere	XJDXL12.5002
1999	Deere	XJDXL12.5020
1999	Deere	XJDXL12.5021
1999	Komatsu	XKLXL11.0DC1
1999	Komatsu	XKLXL15.2EB1
1999	Komatsu	XKLXL15.2EC1
1999	Komatsu	XKLXL7.15CB1
1999	Liebherr	XLHAL17.2ARA
1999	Liebherr	XLHAL17.2ATA
1999	Liebherr	XLHAL9.96ARA
1999	Liebherr	XLHAL9.96ASA
1999	Liebherr	XLHAL9.96ATA
1999	Daimler-Benz	XMBXL12.0RJA
1999	DaimlerChrysler	XMBXL12.9R6A
1999	Daimler-Benz	XMBXL15.9RJA
1999	International	XNVXL0466ANA
1999	International	XNVXL0466BNA
1999	International	XNVXL0530ANA
1999	International	XNVXL0530ANB
1999	International	XNVXL0530ANC
1999	International	XNVXL0530AND
1999	International	XNVXL0530BNA
1999	International	XNVXL0530BNB
1999	International	XNVXL0530BNC
1999	International	XNVXL0530BND
1999	AB Volvo Penta	XVPXL06.7ABA
1999	AB Volvo Penta	XVPXL07.3ABB
1999	AB Volvo Penta	XVPXL07.3ACB
1999	AB Volvo Penta	XVPXL09.6ABA
1999	AB Volvo Penta	XVPXL09.6ACB
1999	AB Volvo Penta	XVPXL12.0ABA
1999	AB Volvo Penta	XVPXL12.0ACB
1999	Volvo Construction Equipment	XVSXL09.6CE1
1999	Volvo Construction Equipment	XVSXL12.0CE1
1999	Volvo Construction Equipment	XVSXL16.0CE1
1999	Case	XX9XL0505ABC
2000	Cummins	YCEXL015.ACA
2000	Cummins	YCEXL0505ABC
2000	Cummins	YCEXL0661AAA
2000	Cummins	YCEXL0661AAB
2000	Cummins	YCEXL0855AAA
2000	Cummins	YCEXL0855AAB

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Table 1

Model Year	Manufacturer	Engine Family
2000	Case	YX9XL0505ABB
2000	Case	YX9XL0505ACA
2001	Cummins	1CEXL0505ABA
2001	Cummins	1CEXL0505ABB
2001	Cummins	1CEXL0505ACA
2001	Cummins	1CEXL0505ACB
2001	Cummins	1CEXL0505ACE
2001	Caterpillar	1CPXL07.0MRB
2001	Caterpillar	1CPXL10.5MRG
2001	Daewoo	1DWXL11.1BIA
2001	Deere	1JDXL06.8012
2001	Deere	1JDXL06.8013
2001	Deere	1JDXL08.1009
2001	Deere	1JDXL08.1019
2001	Deere	1JDXL08.1024
2001	Komatsu	1KLXL0505ABB
2001	Komatsu	1KLXL0505ACA
2001	Komatsu	1KLXL11.0DA1
2001	Komatsu	1KLXL11.0DB1
2001	Komatsu	1KLXL11.0DC1
2001	Komatsu	1KLXL7.15CC1
2001	DaimlerChrysler	1MBXL14.6R6A
2001	DaimlerChrysler	1MBXL14.6R6B
2001	DaimlerChrysler	1MBXL21.9R6A
2001	Mitsubishi Motors	1MTXL07.5D6C
2001	Mitsubishi Motors	1MTXL11.9D6A
2001	Iveco	1VEXL07.7DAR
2001	AB Volvo Penta	1VPXL06.7AAA
2001	AB Volvo Penta	1VPXL09.6AAA
2001	Case	1X9XL0505ABA
2001	Case	1X9XL0505ABB
2001	Case	1X9XL0505ACA
2002	Cummins	2CEXL0505ABA
2002	Cummins	2CEXL0505ABB
2002	Cummins	2CEXL0505ACA
2002	Caterpillar	2CPXL07.0MRB
2002	Daewoo	2DWXL11.1BIA
2002	Daewoo	2DWXL14.6CVT
2002	Deutz	2DZXL35.0001
2002	Deere	2JDXL06.8012
2002	Deere	2JDXL06.8013
2002	Deere	2JDXL08.1007
2002	Deere	2JDXL08.1009
2002	Deere	2JDXL08.1019
2002	Deere	2JDXL08.1024
2002	Deere	2JDXL08.1045
2002	Komatsu	2KLXL0505ABB
2002	Komatsu	2KLXL0505ACA
2002	Komatsu	2KLXL11.0DA1
2002	Komatsu	2KLXL11.0DB1
2002	Komatsu	2KLXL11.0DC1
2002	Komatsu	2KLXL7.15CC1

Table 2

Model Year	Manufacturer	Engine Family
2000	Caterpillar	YCPXL07.2HRK
2000	Caterpillar	YCPXL10.3ERK
2000	Caterpillar	YCPXL10.5MRG
2000	Caterpillar	YCPXL12.0ERM
2000	Caterpillar	YCPXL14.6ERK
2000	Caterpillar	YCPXL14.6MRC
2000	Caterpillar	YCPXL15.8ERK
2000	Caterpillar	YCPXL18.0HRK
2000	Detroit Diesel Corporation	YDDXL08.5TJD
2000	Detroit Diesel Corporation	YDDXL11.1THD
2000	Detroit Diesel Corporation	YDDXL12.7TGD
2000	Detroit Diesel Corporation	YDDXL14.0TLD
2000	Detroit Diesel Corporation	YDDXL15.9TRE
2000	Deutz	YDZXL07.1005
2000	Deutz	YDZXL15.9002
2000	Deutz	YDZXL15.9003
2000	Generac Corporation	YGNXL13.3HTA
2000	Deere	YJDXL08.1008
2000	Deere	YJDXL10.5004
2000	Deere	YJDXL10.5022
2000	Deere	YJDXL12.5001
2000	Deere	YJDXL12.5002
2000	Deere	YJDXL12.5020
2000	Deere	YJDXL12.5021
2000	Komatsu	YKLXL15.2EB1
2000	Komatsu	YKLXL15.2EC1
2000	Komatsu	YKLXL7.15CB1
2000	Komatsu	YKLXL7.15CD1
2000	Liebherr	YLHAL17.2ARA
2000	Liebherr	YLHAL17.2ATA
2000	Liebherr	YLHAL9.96ARA
2000	Liebherr	YLHAL9.96ASA
2000	Liebherr	YLHAL9.96ATA
2000	DaimlerChrysler	YMBXL12.0RJA
2000	DaimlerChrysler	YMBXL12.0RJB
2000	DaimlerChrysler	YMBXL12.9R6A
2000	DaimlerChrysler	YMBXL15.9RJA
2000	Mitsubishi Motors	YMTXL07.5D6A
2000	Mitsubishi Motors	YMTXL11.9D2A
2000	International	YNVXL0466ANA
2000	International	YNVXL0530ANA
2000	International	YNVXL0530ANB
2000	International	YNVXL0530ANC
2000	International	YNVXL0530AND
2000	Isuzu	YSZXL07.8EXA
2000	Iveco	YVEXL09.5DAR
2000	AB Volvo Penta	YVPXL06.7ABA
2000	AB Volvo Penta	YVPXL07.3ABB
2000	AB Volvo Penta	YVPXL07.3ACB
2000	AB Volvo Penta	YVPXL09.6ABA
2000	AB Volvo Penta	YVPXL09.6ACB
2000	AB Volvo Penta	YVPXL12.0ABA

ARB Approved Engine Families for the Cleaire Allmetal™ System

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
2002	Mitsubishi Motors	2MTXL07.5D6C
2002	Mitsubishi Motors	2MTXL11.9D6A
2002	AB Volvo Penta	2VPXL06.7AAA
2002	AB Volvo Penta	2VPXL09.6AAA
2002	Case	2X9XL0505ABA
2002	Case	2X9XL0505ABB
2002	Case	2X9XL0505ACA
2003	Caterpillar	3CPXL07.2HSK
2003	Caterpillar	3CPXL18.0HRX
2003	Deutz	3DZXL35.0001
2003	Deere	3JDXL06.8041
2003	Deere	3JDXL06.8044
2003	Deere	3JDXL06.8053
2003	Deere	3JDXL08.1045
2003	Deere	3JDXL08.1058
2003	Deere	3JDXL08.1059
2003	Mitsubishi Fuso	3MFTL07.5D6E
2003	CNH UK Limited	3NHXL06.7DTA
2003	CNH UK Limited	3NHXL07.5B2H
2003	CNH Engine Corporation	3X9XL0505AAB
2004	Caterpillar	4CPXL18.0HRX
2004	Deutz	4DZXL35.0001
2004	Deere	4JDXL06.8039
2004	Deere	4JDXL06.8041
2004	Deere	4JDXL06.8044
2004	Deere	4JDXL06.8053
2004	Deere	4JDXL08.1045
2004	Deere	4JDXL08.1058
2004	Deere	4JDXL08.1059
2004	Mitsubishi Fuso	4MFTL07.5D6E
2004	CNH UK Limited	4NHXL07.5B2H
2004	CNH Engine Corporation	4X9XL0505AAB
2005	Deutz	5DZXL35.0001
2005	Deere	5JDXL06.8039
2005	Deere	5JDXL06.8041
2005	Deere	5JDXL06.8044
2005	Deere	5JDXL06.8053
2005	Deere	5JDXL06.8078
2005	Deere	5JDXL08.1045
2005	Deere	5JDXL08.1058
2005	Deere	5JDXL08.1059
2005	Mitsubishi Fuso	5MFTL07.5D6E
2005	CNH UK Limited	5NHXL07.5B2H
2005	CNH Engine Corporation	5X9XL0505AAB
2006	Doosan Infracore	6DWXL08.1BDA
2006	Deere	6JDXL06.8039
2006	Deere	6JDXL06.8041
2006	Deere	6JDXL06.8044
2006	Deere	6JDXL06.8078
2006	Mitsubishi Fuso	6MFTL07.5D6E
2006	CNH UK Limited	6NHXL07.5B2H
2007	Deere	7JDXL06.8039

Table 2

Model Year	Manufacturer	Engine Family
2000	AB Volvo Penta	YVPXL12.0ACB
2000	Volvo Construction Equipment	YVSLX09.6CE1
2000	Volvo Construction Equipment	YVSLX12.0CE1
2000	Volvo Construction Equipment	YVSLX16.0CE1
2000	Case	YX9XL0505ABC
2001	Cummins	1CEXL015.AAA
2001	Cummins	1CEXL0505ABC
2001	Cummins	1CEXL0505ACC
2001	Cummins	1CEXL0540AAA
2001	Cummins	1CEXL0661AAA
2001	Cummins	1CEXL0661AAB
2001	Cummins	1CEXL0661AAC
2001	Cummins	1CEXL0661AAD
2001	Caterpillar	1CPXL07.2HRK
2001	Caterpillar	1CPXL07.2HSK
2001	Caterpillar	1CPXL08.8HSK
2001	Caterpillar	1CPXL10.3ESK
2001	Caterpillar	1CPXL10.5MRD
2001	Caterpillar	1CPXL12.0ESK
2001	Caterpillar	1CPXL14.6ESK
2001	Caterpillar	1CPXL15.8ESK
2001	Caterpillar	1CPXL18.0HSK
2001	Detroit Diesel Corporation	1DDXL08.5TJD
2001	Detroit Diesel Corporation	1DDXL08.5YJD
2001	Detroit Diesel Corporation	1DDXL12.7VGD
2001	Detroit Diesel Corporation	1DDXL14.0VLD
2001	Detroit Diesel Corporation	1DDXL14.0WLD
2001	Deutz	1DZXL07.1004
2001	Deutz	1DZXL07.1005
2001	Deutz	1DZXL15.9002
2001	Deutz	1DZXL15.9003
2001	Deere	1JDXL06.8038
2001	Deere	1JDXL06.8039
2001	Deere	1JDXL08.1007
2001	Deere	1JDXL08.1008
2001	Deere	1JDXL08.1036
2001	Deere	1JDXL08.1037
2001	Deere	1JDXL12.5002
2001	Deere	1JDXL12.5029
2001	Deere	1JDXL12.5035
2001	Komatsu	1KLXL11.0DD3
2001	Komatsu	1KLXL11.0DD4
2001	Komatsu	1KLXL15.2EB1
2001	Komatsu	1KLXL15.2EC3
2001	Komatsu	1KLXL15.2ED3
2001	Komatsu	1KLXL7.15CB1
2001	Komatsu	1KLXL7.15CD1
2001	Liebherr	1LHAL17.2ARA
2001	Liebherr	1LHAL17.2ATA
2001	Liebherr	1LHAL17.2AUA
2001	Liebherr	1LHAL9.96ARA
2001	Liebherr	1LHAL9.96ASA

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
2007	Deere	7JDXL06.8041
2007	Deere	7JDXL06.8044
2007	Deere	7JDXL06.8105
2007	CNH UK Limited	7NHXL06.7DAA
2007	CNH UK Limited	7NHXL06.7DTA
2007	Iveco	7VEXL06.7DAA
2007	Iveco	7VEXL06.7DTA
2008	Deere	8JDXL06.8041
2008	Deere	8JDXL06.8105
2009	Deere	9JDXL06.8105

Table 2

Model Year	Manufacturer	Engine Family
2001	Liebherr	1LHAL9.96ATA
2001	Liebherr	1LHAL9.96AUA
2001	DaimlerChrysler	1MBXL12.0RJB
2001	DaimlerChrysler	1MBXL12.0RJC
2001	DaimlerChrysler	1MBXL12.9R6A
2001	DaimlerChrysler	1MBXL15.9RJA
2001	DaimlerChrysler	1MBXL7.20RJA
2001	Mitsubishi Motors	1MTXL07.5D6A
2001	International	1NVXL0466ANA
2001	International	1NVXL0530ANA
2001	International	1NVXL0530ANB
2001	International	1NVXL0530ANC
2001	International	1NVXL0530AND
2001	International	1NVXL0530ANE
2001	International	1NVXL0530ANF
2001	Isuzu	1SZXL07.8ATA
2001	Isuzu	1SZXL07.8EXA
2001	Isuzu	1SZXL09.8EXA
2001	Isuzu	1SZXL15.7ETA
2001	Isuzu	1SZXL15.7EXA
2001	Iveco	1VEXL07.8CRS
2001	Iveco	1VEXL09.5DAR
2001	Iveco	1VEXL10.3CRS
2001	Iveco	1VEXL12.9CRS
2001	AB Volvo Penta	1VPXL06.7ABA
2001	AB Volvo Penta	1VPXL07.3ABB
2001	AB Volvo Penta	1VPXL07.3ACB
2001	AB Volvo Penta	1VPXL09.6ABA
2001	AB Volvo Penta	1VPXL09.6ACB
2001	AB Volvo Penta	1VPXL12.1ACB
2001	Volvo Construction Equipment	1VSXL06.7CE1
2001	Volvo Construction Equipment	1VSXL09.6CE1
2001	Volvo Construction Equipment	1VSXL09.6CE2
2001	Volvo Construction Equipment	1VSXL12.0CE1
2001	Volvo Construction Equipment	1VSXL12.1CE2
2001	Case	1X9XL0505ABC
2001	Case	1X9XL0505ACC
2001	Case	1X9XL0540AAA
2002	Cummins	2CEXL015.AAA
2002	Cummins	2CEXL015.AAB
2002	Cummins	2CEXL0505ABC
2002	Cummins	2CEXL0505ABD
2002	Cummins	2CEXL0505ACB
2002	Cummins	2CEXL0505ACC
2002	Cummins	2CEXL0505ACE
2002	Cummins	2CEXL0540AAA
2002	Cummins	2CEXL0661AAA
2002	Cummins	2CEXL0661AAB
2002	Cummins	2CEXL0661AAC
2002	Cummins	2CEXL0661AAD
2002	Caterpillar	2CPXL07.2HRK
2002	Caterpillar	2CPXL07.2HSX

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For Table 1

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over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2002	Caterpillar	2CPXL08.8HSK
2002	Caterpillar	2CPXL08.8HSX
2002	Caterpillar	2CPXL10.3ESK
2002	Caterpillar	2CPXL10.3ESX
2002	Caterpillar	2CPXL10.5MRD
2002	Caterpillar	2CPXL12.0ESK
2002	Caterpillar	2CPXL14.6ESK
2002	Caterpillar	2CPXL15.8ESK
2002	Caterpillar	2CPXL18.0HSK
2002	Detroit Diesel Corporation	2DDXL08.5YJD
2002	Detroit Diesel Corporation	2DDXL12.7VGD
2002	Detroit Diesel Corporation	2DDXL14.0VLD
2002	Deutz	2DZXL07.1004
2002	Deutz	2DZXL07.1005
2002	Deutz	2DZXL07.1032
2002	Deutz	2DZXL15.9002
2002	Deutz	2DZXL15.9003
2002	Deere	2JDXL06.8038
2002	Deere	2JDXL06.8039
2002	Deere	2JDXL06.8049
2002	Deere	2JDXL08.1008
2002	Deere	2JDXL08.1036
2002	Deere	2JDXL08.1037
2002	Deere	2JDXL12.5029
2002	Deere	2JDXL12.5035
2002	Komatsu	2KLXL0505ABD
2002	Komatsu	2KLXL11.0DC3
2002	Komatsu	2KLXL11.0DD3
2002	Komatsu	2KLXL11.0DD4
2002	Komatsu	2KLXL11.0DD5
2002	Komatsu	2KLXL11.0DD6
2002	Komatsu	2KLXL15.2EB1
2002	Komatsu	2KLXL15.2EC3
2002	Komatsu	2KLXL15.2ED3
2002	Komatsu	2KLXL15.2EE3
2002	Komatsu	2KLXL7.15CB1
2002	Komatsu	2KLXL7.15CD1
2002	Liebherr	2LHAL17.2ARA
2002	Liebherr	2LHAL17.2ATA
2002	Liebherr	2LHAL17.2AUA
2002	Liebherr	2LHAL9.96ARA
2002	Liebherr	2LHAL9.96ASA
2002	Liebherr	2LHAL9.96ATA
2002	Liebherr	2LHAL9.96AUA
2002	DaimlerChrysler	2MBXL12.0RJB
2002	DaimlerChrysler	2MBXL12.0RJC
2002	DaimlerChrysler	2MBXL15.9RJA
2002	Mitsubishi Motors	2MTXL07.5D6A
2002	Mitsubishi Motors	2MTXL07.5D6D
2002	Mitsubishi Motors	2MTXL11.9D2C
2002	New Holland	2NHXL07.5A3A
2002	New Holland	2NHXL07.5A3F

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over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2002	International	2NVXL0444ANA
2002	International	2NVXL0466ANA
2002	International	2NVXL0530ANA
2002	International	2NVXL0530ANB
2002	International	2NVXL0530ANC
2002	International	2NVXL0530AND
2002	International	2NVXL0530ANE
2002	International	2NVXL0530ANF
2002	Isuzu	2SZXL07.8ATA
2002	Isuzu	2SZXL07.8EXA
2002	Isuzu	2SZXL09.8EXA
2002	Isuzu	2SZXL15.7ETA
2002	Isuzu	2SZXL15.7EXA
2002	Iveco	2VEXL07.7DAR
2002	Iveco	2VEXL07.8CRS
2002	Iveco	2VEXL10.3CRS
2002	Iveco	2VEXL12.9CRS
2002	AB Volvo Penta	2VPXL06.7ABA
2002	AB Volvo Penta	2VPXL07.3ABB
2002	AB Volvo Penta	2VPXL07.3ACB
2002	AB Volvo Penta	2VPXL09.6ABA
2002	AB Volvo Penta	2VPXL09.6ACB
2002	AB Volvo Penta	2VPXL12.1ABA
2002	AB Volvo Penta	2VPXL12.1ACA
2002	AB Volvo Penta	2VPXL12.1ACB
2002	Volvo Construction Equipment	2VSXL06.7CE1
2002	Volvo Construction Equipment	2VSXL09.6CE2
2002	Volvo Construction Equipment	2VSXL12.1CE2
2002	Volvo Construction Equipment	2VSXL16.0CE2
2002	Case	2X9XL0505ABC
2002	Case	2X9XL0505ABD
2002	Case	2X9XL0505ACC
2002	Case	2X9XL0540AAA
2003	Cummins	3CEXL015.AAA
2003	Cummins	3CEXL015.AAB
2003	Cummins	3CEXL0409AAA
2003	Cummins	3CEXL0505ABC
2003	Cummins	3CEXL0505ABD
2003	Cummins	3CEXL0505ACB
2003	Cummins	3CEXL0505ACC
2003	Cummins	3CEXL0540AAA
2003	Cummins	3CEXL0661AAC
2003	Cummins	3CEXL0661AAD
2003	Cummins	3CEXL0661AAE
2003	Caterpillar	3CPXL07.2HSL
2003	Caterpillar	3CPXL08.8HSK
2003	Caterpillar	3CPXL08.8HSL
2003	Caterpillar	3CPXL10.3ESK
2003	Caterpillar	3CPXL10.5MRW
2003	Caterpillar	3CPXL12.0ESK
2003	Caterpillar	3CPXL14.6ESK
2003	Caterpillar	3CPXL15.8ESK

ARB Approved Engine Families for the Cleaire Allmetal™ System

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

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over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
------------	--------------	---------------

Table 2

Model Year	Manufacturer	Engine Family
2003	Caterpillar	3CPXL18.0HSK
2003	Detroit Diesel Corporation	3DDXL08.5YJD
2003	Detroit Diesel Corporation	3DDXL12.7VGD
2003	Detroit Diesel Corporation	3DDXL14.0VLD
2003	Daewoo	3DWXL08.1CPA
2003	Daewoo	3DWXL11.1DJA
2003	Deutz	3DZXL07.1032
2003	Deutz	3DZXL07.1034
2003	Deutz	3DZXL15.9002
2003	Hino	3HMXL12.8KUV
2003	Deere	3JDXL06.8038
2003	Deere	3JDXL06.8039
2003	Deere	3JDXL06.8048
2003	Deere	3JDXL06.8049
2003	Deere	3JDXL06.8052
2003	Deere	3JDXL08.1037
2003	Deere	3JDXL12.5035
2003	Komatsu	3KLXL0505ABD
2003	Komatsu	3KLXL11.0DC3
2003	Komatsu	3KLXL11.0DD3
2003	Komatsu	3KLXL11.0DD5
2003	Komatsu	3KLXL15.2EC3
2003	Komatsu	3KLXL15.2ED3
2003	Komatsu	3KLXL15.2EE3
2003	Liebherr	3LHAL17.2ARA
2003	Liebherr	3LHAL17.2ATA
2003	Liebherr	3LHAL17.2AUA
2003	Liebherr	3LHAL9.96ARA
2003	Liebherr	3LHAL9.96ATA
2003	Liebherr	3LHAL9.96AUA
2003	DaimlerChrysler	3MBXL12.0RJB
2003	DaimlerChrysler	3MBXL12.0RJC
2003	DaimlerChrysler	3MBXL15.9RJA
2003	DaimlerChrysler	3MBXL7.20RJA
2003	Mitsubishi Fuso	3MFTL07.5D6A
2003	Mitsubishi Fuso	3MFTL07.5D6D
2003	Mitsubishi Motors	3MTXL11.9D2A
2003	CNH UK Limited	3NHXL06.7DCR
2003	CNH UK Limited	3NHXL07.5B3A
2003	CNH UK Limited	3NHXL07.5B3C
2003	CNH UK Limited	3NHXL07.5B3F
2003	International	3NVXL0530ANE
2003	International	3NVXL0530ANF
2003	Isuzu	3SZXL07.8ETA
2003	Isuzu	3SZXL07.8EXA
2003	Isuzu	3SZXL09.8EXA
2003	Isuzu	3SZXL15.7ETA
2003	Isuzu	3SZXL15.7EXA
2003	Iveco	3VEXL06.7DCR
2003	Iveco	3VEXL07.8CRS
2003	Iveco	3VEXL10.3CRS
2003	Iveco	3VEXL12.9CRS

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For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
------------	--------------	---------------

Table 2

Model Year	Manufacturer	Engine Family
2003	AB Volvo Penta	3VPXL07.3ACB
2003	AB Volvo Penta	3VPXL09.6ACB
2003	AB Volvo Penta	3VPXL12.1ABA
2003	AB Volvo Penta	3VPXL12.1ACA
2003	AB Volvo Penta	3VPXL12.1ACB
2003	Volvo Construction Equipment	3VSXL09.6CE2
2003	Volvo Construction Equipment	3VSXL12.1CE2
2003	Volvo Construction Equipment	3VSXL16.0CE2
2003	CNH Engine Corporation	3X9XL0505ABC
2003	CNH Engine Corporation	3X9XL0505ABD
2003	CNH Engine Corporation	3X9XL0505ACC
2003	CNH Engine Corporation	3X9XL0540AAA
2004	Cummins	4CEXL015.AAA
2004	Cummins	4CEXL015.AAB
2004	Cummins	4CEXL015.AAC
2004	Cummins	4CEXL015.AAD
2004	Cummins	4CEXL0409AAA
2004	Cummins	4CEXL0505ABC
2004	Cummins	4CEXL0505ABD
2004	Cummins	4CEXL0505ACB
2004	Cummins	4CEXL0505ACC
2004	Cummins	4CEXL0540AAA
2004	Cummins	4CEXL0661AAC
2004	Cummins	4CEXL0661AAD
2004	Cummins	4CEXL0661AAE
2004	Caterpillar	4CPXL07.2HSK
2004	Caterpillar	4CPXL07.2HSL
2004	Caterpillar	4CPXL08.8ESK
2004	Caterpillar	4CPXL08.8HSK
2004	Caterpillar	4CPXL08.8HSL
2004	Caterpillar	4CPXL10.3ESK
2004	Caterpillar	4CPXL10.5MRW
2004	Caterpillar	4CPXL11.1ESK
2004	Caterpillar	4CPXL12.0ESK
2004	Caterpillar	4CPXL12.5ESK
2004	Caterpillar	4CPXL14.6ESK
2004	Caterpillar	4CPXL15.2ESK
2004	Caterpillar	4CPXL15.8ESK
2004	Caterpillar	4CPXL18.0HSK
2004	Caterpillar	4CPXL18.1ESK
2004	Detroit Diesel Corporation	4DDXL08.5YJD
2004	Detroit Diesel Corporation	4DDXL12.7VGD
2004	Detroit Diesel Corporation	4DDXL14.0VLD
2004	Daewoo	4DWXL08.1CPA
2004	Daewoo	4DWXL11.1BIA
2004	Daewoo	4DWXL11.1DJA
2004	Deutz	4DZXL07.1032
2004	Deutz	4DZXL07.1034
2004	Deutz	4DZXL15.9002
2004	Hino	4HMXL12.8KUV
2004	Deere	4JDXL06.8038
2004	Deere	4JDXL06.8048

ARB Approved Engine Families for the Cleaire Allmetal™ System

CARB Verification Number: CA/CLE/2009/PM3+/N00/OF/DPF02

Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2004	Deere	4JDXL06.8049
2004	Deere	4JDXL06.8052
2004	Deere	4JDXL06.8072
2004	Deere	4JDXL08.1037
2004	Deere	4JDXL12.5035
2004	Deere	4JDXL12.5073
2004	Komatsu	4KLXL0505ABC
2004	Komatsu	4KLXL0505ABD
2004	Komatsu	4KLXL11.0DC3
2004	Komatsu	4KLXL11.0DD3
2004	Komatsu	4KLXL11.0DD5
2004	Komatsu	4KLXL15.2EC3
2004	Komatsu	4KLXL15.2ED3
2004	Komatsu	4KLXL15.2EE3
2004	Liebherr	4LHAL17.2ARA
2004	Liebherr	4LHAL17.2ATA
2004	Liebherr	4LHAL17.2AUA
2004	Liebherr	4LHAL9.96ARA
2004	Liebherr	4LHAL9.96ATA
2004	Liebherr	4LHAL9.96AUA
2004	DaimlerChrysler	4MBXL12.0RJB
2004	DaimlerChrysler	4MBXL12.0RJC
2004	DaimlerChrysler	4MBXL15.9RJA
2004	DaimlerChrysler	4MBXL7.20RJA
2004	Mitsubishi Fuso	4MFTL07.5D6A
2004	Mitsubishi Fuso	4MFTL07.5D6D
2004	Mitsubishi Fuso	4MFTL11.9D2A
2004	CNH UK Limited	4NHXL06.7DCR
2004	CNH UK Limited	4NHXL07.5B3A
2004	CNH UK Limited	4NHXL07.5B3C
2004	CNH UK Limited	4NHXL07.5B3F
2004	International	4NVXL0530ANE
2004	International	4NVXL0530ANF
2004	Isuzu	4SZXL06.8ETA
2004	Isuzu	4SZXL07.8EXA
2004	Isuzu	4SZXL09.8EXA
2004	Isuzu	4SZXL15.7ETA
2004	Isuzu	4SZXL15.7EXA
2004	Iveco	4VEXL06.7DCR
2004	Iveco	4VEXL07.8CRS
2004	Iveco	4VEXL10.3CRS
2004	Iveco	4VEXL12.9CRS
2004	Iveco	4VEXL12.9GEN
2004	Iveco	4VEXL12.9VGT
2004	AB Volvo Penta	4VPXL07.3ACB
2004	AB Volvo Penta	4VPXL09.4ACA
2004	AB Volvo Penta	4VPXL09.4ACB
2004	AB Volvo Penta	4VPXL09.4ACC
2004	AB Volvo Penta	4VPXL09.6ACB
2004	AB Volvo Penta	4VPXL09.6ACC
2004	AB Volvo Penta	4VPXL12.1ABA
2004	AB Volvo Penta	4VPXL12.1ACA

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CARB Verification Number: CA/CLE/2009/PM3+/N00/OF/DPF02

Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2004	AB Volvo Penta	4VPXL12.1ACB
2004	Volvo Construction Equipment	4VSXL09.4CE2
2004	Volvo Construction Equipment	4VSXL09.6CE2
2004	Volvo Construction Equipment	4VSXL12.1CE2
2004	Volvo Construction Equipment	4VSXL16.0CE2
2004	CNH Engine Corporation	4X9XL0505ABC
2004	CNH Engine Corporation	4X9XL0505ABD
2004	CNH Engine Corporation	4X9XL0505ACC
2004	CNH Engine Corporation	4X9XL0540AAA
2005	Cummins	5CEXL015.AAA
2005	Cummins	5CEXL015.AAC
2005	Cummins	5CEXL015.AAD
2005	Cummins	5CEXL0409AAA
2005	Cummins	5CEXL0409AAB
2005	Cummins	5CEXL0409AAC
2005	Cummins	5CEXL0505AAE
2005	Cummins	5CEXL0505ABC
2005	Cummins	5CEXL0505ABD
2005	Cummins	5CEXL0505ACB
2005	Cummins	5CEXL0540AAA
2005	Cummins	5CEXL0540AAB
2005	Cummins	5CEXL0661AAE
2005	Cummins	5CEXL0661AAF
2005	Caterpillar	5CPXL07.2ESL
2005	Caterpillar	5CPXL07.2HSK
2005	Caterpillar	5CPXL07.2HSL
2005	Caterpillar	5CPXL08.8ESK
2005	Caterpillar	5CPXL08.8ESL
2005	Caterpillar	5CPXL08.8HSL
2005	Caterpillar	5CPXL10.3ESK
2005	Caterpillar	5CPXL10.5MRW
2005	Caterpillar	5CPXL11.1ESK
2005	Caterpillar	5CPXL12.0ESK
2005	Caterpillar	5CPXL12.5ESK
2005	Caterpillar	5CPXL15.2ESK
2005	Caterpillar	5CPXL18.1ESK
2005	Detroit Diesel Corporation	5DDXL08.5YJD
2005	Daewoo	5DWXL08.1CPA
2005	Daewoo	5DWXL11.1BIA
2005	Daewoo	5DWXL11.1DJA
2005	Deutz	5DZXL07.1032
2005	Deutz	5DZXL07.1034
2005	Deutz	5DZXL15.9002
2005	Hino	5HMXL12.8KUV
2005	Deere	5JDXL06.8038
2005	Deere	5JDXL06.8048
2005	Deere	5JDXL06.8049
2005	Deere	5JDXL06.8052
2005	Deere	5JDXL06.8072
2005	Deere	5JDXL06.8080
2005	Deere	5JDXL08.1037
2005	Deere	5JDXL12.5035

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2005	Deere	5JDXL12.5073
2005	Komatsu	5KLXL0409AAB
2005	Komatsu	5KLXL0409AAC
2005	Komatsu	5KLXL0505AAE
2005	Komatsu	5KLXL0505ABC
2005	Komatsu	5KLXL0505ABD
2005	Komatsu	5KLXL11.0DC3
2005	Komatsu	5KLXL11.0DD3
2005	Komatsu	5KLXL11.0DD5
2005	Komatsu	5KLXL15.2EC3
2005	Komatsu	5KLXL15.2ED3
2005	Komatsu	5KLXL15.2EE3
2005	Liebherr	5LHAL10.5LPA
2005	Liebherr	5LHAL17.2ARA
2005	Liebherr	5LHAL17.2ATA
2005	Liebherr	5LHAL17.2AUA
2005	Liebherr	5LHAL9.96ARA
2005	Liebherr	5LHAL9.96ATA
2005	Liebherr	5LHAL9.96AUA
2005	DaimlerChrysler	5MBXL12.0RJB
2005	DaimlerChrysler	5MBXL12.0RJC
2005	DaimlerChrysler	5MBXL15.9RJA
2005	DaimlerChrysler	5MBXL7.20RJA
2005	Mitsubishi Fuso	5MFTL07.5D6A
2005	Mitsubishi Fuso	5MFTL07.5D6D
2005	Mitsubishi Fuso	5MFTL11.9D2A
2005	CNH UK Limited	5NHXL06.7DCR
2005	CNH UK Limited	5NHXL07.5B3A
2005	CNH UK Limited	5NHXL07.5B3C
2005	CNH UK Limited	5NHXL07.5B3F
2005	Sisu Diesel	5SIDL07.4G4A
2005	Sisu Diesel	5SIDL07.4G4B
2005	Sisu Diesel	5SIDL07.4G5A
2005	Sisu Diesel	5SIDL07.4G5B
2005	Sisu Diesel	5SIDL08.4H4A
2005	Sisu Diesel	5SIDL08.4H5A
2005	Sisu Diesel	5SIDL08.4H5B
2005	Isuzu	5SZXL07.8ETA
2005	Isuzu	5SZXL07.8EXA
2005	Isuzu	5SZXL09.8EXA
2005	Isuzu	5SZXL15.7ETA
2005	Isuzu	5SZXL15.7EXA
2005	Iveco	5VEXL06.7DCR
2005	Iveco	5VEXL06.7DGA
2005	Iveco	5VEXL07.8CRS
2005	Iveco	5VEXL10.3CRS
2005	Iveco	5VEXL10.3TR3
2005	Iveco	5VEXL10.3VGT
2005	Iveco	5VEXL12.9CRS
2005	Iveco	5VEXL12.9GEN
2005	Iveco	5VEXL12.9TR3
2005	Iveco	5VEXL12.9VGT

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2005	AB Volvo Penta	5VPXL07.3ACB
2005	AB Volvo Penta	5VPXL09.4ACA
2005	AB Volvo Penta	5VPXL09.4ACB
2005	AB Volvo Penta	5VPXL09.4ACC
2005	AB Volvo Penta	5VPXL09.6ACB
2005	AB Volvo Penta	5VPXL12.1ABA
2005	AB Volvo Penta	5VPXL12.1ACA
2005	AB Volvo Penta	5VPXL12.1ACB
2005	AB Volvo Penta	5VPXL16.1ACD
2005	AB Volvo Penta	5VPXL16.1ACE
2005	Volvo Construction Equipment	5VSXL09.4CE2
2005	Volvo Construction Equipment	5VSXL12.1CE2
2005	CNH Engine Corporation	5X9XL0505AAE
2005	CNH Engine Corporation	5X9XL0505ABC
2005	CNH Engine Corporation	5X9XL0505ABD
2005	CNH Engine Corporation	5X9XL0505ACC
2005	CNH Engine Corporation	5X9XL0540AAA
2005	CNH Engine Corporation	5X9XL0540AAB
2006	Cummins	6CEXL015.AAA
2006	Cummins	6CEXL015.AAC
2006	Cummins	6CEXL015.AAD
2006	Cummins	6CEXL015.AAE
2006	Cummins	6CEXL0409AAB
2006	Cummins	6CEXL0409AAC
2006	Cummins	6CEXL0505AAE
2006	Cummins	6CEXL0505ABD
2006	Cummins	6CEXL0540AAB
2006	Cummins	6CEXL0661AAF
2006	Cummins	6CEXL0661AAG
2006	Caterpillar	6CPXL07.2ESL
2006	Caterpillar	6CPXL07.2HSK
2006	Caterpillar	6CPXL08.8ESK
2006	Caterpillar	6CPXL11.1ESK
2006	Caterpillar	6CPXL12.5ESK
2006	Caterpillar	6CPXL15.2ESK
2006	Caterpillar	6CPXL18.1ESK
2006	Doosan Infracore	6DWXL07.6UPA
2006	Doosan Infracore	6DWXL11.0UJA
2006	Deutz	6DZXL07.1034
2006	Deutz	6DZXL07.1053
2006	Deere	6JDXL06.8038
2006	Deere	6JDXL06.8048
2006	Deere	6JDXL06.8049
2006	Deere	6JDXL06.8052
2006	Deere	6JDXL06.8080
2006	Deere	6JDXL06.8104
2006	Deere	6JDXL08.1037
2006	Deere	6JDXL12.5035
2006	Deere	6JDXL12.5073
2006	Komatsu	6KLXL0409AAB
2006	Komatsu	6KLXL0409AAC
2006	Komatsu	6KLXL0505AAE

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2006	Komatsu	6KLXL0505ABD
2006	Liebherr	6LHAL10.5LPA
2006	Liebherr	6LHAL12.0KPA
2006	Liebherr	6LHAL9.54SPA
2006	Liebherr	6LHAL9.96ARA
2006	Liebherr	6LHAL9.96ATA
2006	DaimlerChrysler	6MBXL12.8RJB
2006	DaimlerChrysler	6MBXL7.20RJA
2006	CNH UK Limited	6NHXL06.7DCA
2006	CNH UK Limited	6NHXL06.7DCB
2006	CNH UK Limited	6NHXL06.7DCC
2006	CNH UK Limited	6NHXL06.7DCR
2006	Sisu Diesel	6SIDL07.4G4B
2006	Sisu Diesel	6SIDL07.4G4D
2006	Sisu Diesel	6SIDL07.4G5B
2006	Sisu Diesel	6SIDL08.4H5B
2006	Iveco	6VEXL06.7DCA
2006	Iveco	6VEXL06.7DCB
2006	Iveco	6VEXL06.7DCC
2006	Iveco	6VEXL06.7DCR
2006	Iveco	6VEXL06.7DGB
2006	Iveco	6VEXL06.7DGS
2006	Iveco	6VEXL08.7TR3
2006	Iveco	6VEXL10.3MLR
2006	Iveco	6VEXL10.3TR3
2006	Iveco	6VEXL12.9IGR
2006	Iveco	6VEXL12.9MLR
2006	Iveco	6VEXL12.9TR3
2006	AB Volvo Penta	6VPXL12.1BAA
2006	AB Volvo Penta	6VPXL9.4BAA
2006	CNH Engine Corporation	6X9XL0505AAE
2006	CNH Engine Corporation	6X9XL0505ABD
2006	CNH Engine Corporation	6X9XL0540AAB
2006	CNH Engine Corporation	6X9XL0540AAC
2007	Cummins	7CEXL015.AAE
2007	Cummins	7CEXL015.AAH
2007	Cummins	7CEXL0409AAB
2007	Cummins	7CEXL0409AAC
2007	Cummins	7CEXL0409AAD
2007	Cummins	7CEXL0505AAE
2007	Cummins	7CEXL0540AAB
2007	Cummins	7CEXL0661AAF
2007	Cummins	7CEXL0661AAG
2007	Cummins	7CEXL0661AAJ
2007	Caterpillar	7CPXL07.2ESL
2007	Caterpillar	7CPXL08.8ESK
2007	Caterpillar	7CPXL11.1ESK
2007	Caterpillar	7CPXL12.5ESK
2007	Caterpillar	7CPXL15.2ESK
2007	Caterpillar	7CPXL18.1ESK
2007	Detroit Diesel Corporation	7DDXL7.20RJA
2007	Doosan Infracore	7DWXL07.6UPA

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2007	Doosan Infracore	7DWXL11.0UJA
2007	Deutz	7DZXL07.1034
2007	Deere	7JDXL06.8038
2007	Deere	7JDXL06.8048
2007	Deere	7JDXL06.8049
2007	Deere	7JDXL06.8080
2007	Deere	7JDXL06.8104
2007	Deere	7JDXL08.1037
2007	Deere	7JDXL12.5035
2007	Deere	7JDXL12.5073
2007	Komatsu	7KLXL0409AAB
2007	Komatsu	7KLXL0409AAC
2007	Komatsu	7KLXL0505AAE
2007	Liebherr	7LHAL10.5LPA
2007	Liebherr	7LHAL12.0KPA
2007	Liebherr	7LHAL24.2VCI
2007	Liebherr	7LHAL9.54SPA
2007	DaimlerChrysler	7MBXL12.8RJB
2007	DaimlerChrysler	7MBXL15.9RJA
2007	CNH UK Limited	7NHXL06.7DCA
2007	CNH UK Limited	7NHXL06.7DCB
2007	CNH UK Limited	7NHXL06.7DCC
2007	Perkins	7PKXL15.2TAG
2007	Sisu Diesel	7SIDL07.4G4D
2007	Sisu Diesel	7SIDL07.4G5B
2007	Sisu Diesel	7SIDL08.4H5B
2007	Iveco	7VEXL06.7DCA
2007	Iveco	7VEXL06.7DCB
2007	Iveco	7VEXL06.7DCC
2007	Iveco	7VEXL06.7DGB
2007	Iveco	7VEXL06.7DGS
2007	Iveco	7VEXL08.7TR3
2007	Iveco	7VEXL10.3MLR
2007	Iveco	7VEXL10.3TR3
2007	Iveco	7VEXL12.9IGR
2007	Iveco	7VEXL12.9MLR
2007	Iveco	7VEXL12.9TCD
2007	Iveco	7VEXL12.9TR3
2007	AB Volvo Penta	7VPXL09.4BAA
2007	CNH Engine Corporation	7X9XL0505AAE
2007	CNH Engine Corporation	7X9XL0540AAB
2008	Cummins	8CEXL015.AAA
2008	Cummins	8CEXL015.AAE
2008	Cummins	8CEXL015.AAH
2008	Cummins	8CEXL0409AAB
2008	Cummins	8CEXL0409AAC
2008	Cummins	8CEXL0409AAD
2008	Cummins	8CEXL0505AAE
2008	Cummins	8CEXL0540AAB
2008	Cummins	8CEXL0661AAF
2008	Cummins	8CEXL0661AAG
2008	Cummins	8CEXL0661AAJ

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2008	Caterpillar	8CPXL07.2ESL
2008	Caterpillar	8CPXL08.8ESK
2008	Caterpillar	8CPXL11.1ESK
2008	Caterpillar	8CPXL12.5ESK
2008	Caterpillar	8CPXL15.2ESW
2008	Caterpillar	8CPXL18.1ESK
2008	Doosan Infracore	8DWXL07.6UPA
2008	Doosan Infracore	8DWXL11.0UJA
2008	Deere	8JDXL06.8038
2008	Deere	8JDXL06.8049
2008	Deere	8JDXL06.8080
2008	Deere	8JDXL06.8104
2008	Deere	8JDXL08.1037
2008	Deere	8JDXL09.0114
2008	Deere	8JDXL12.5035
2008	Komatsu	8KLXL0409AAB
2008	Komatsu	8KLXL0409AAC
2008	Komatsu	8KLXL0505AAE
2008	Liebherr	8LHAL10.5LPA
2008	Liebherr	8LHAL12.0KPA
2008	Liebherr	8LHAL24.2VCI
2008	Liebherr	8LHAL9.54SPA
2008	DaimlerChrysler	8MBXL07.2RJA
2008	DaimlerChrysler	8MBXL12.8RJB
2008	DaimlerChrysler	8MBXL15.9RJA
2008	Perkins	8PKXL15.2TAG
2008	Iveco	8VEXL06.7DGB
2008	Iveco	8VEXL06.7DGS
2008	Iveco	8VEXL08.7TR3
2008	Iveco	8VEXL10.3MLR
2008	Iveco	8VEXL10.3TR3
2008	Iveco	8VEXL12.9IGR
2008	Iveco	8VEXL12.9MLR
2008	Iveco	8VEXL12.9TCD
2008	CNH Engine Corporation	8X9XL0505AAE
2008	CNH Engine Corporation	8X9XL0540AAB
2008	CNH Engine Corporation	8X9XL0540AAC
2008	CNH Engine Corporation	8X9XL0540AAD
2008	Scania	8Y9XL11.7BBA
2008	Scania	8Y9XL11.7BBB
2009	Cummins	9CEXL015.AAA
2009	Cummins	9CEXL015.AAE
2009	Cummins	9CEXL015.AAH
2009	Cummins	9CEXL0409AAB
2009	Cummins	9CEXL0409AAC
2009	Cummins	9CEXL0409AAD
2009	Cummins	9CEXL0505AAE
2009	Cummins	9CEXL0540AAB
2009	Cummins	9CEXL0540AAD
2009	Cummins	9CEXL0661AAF
2009	Cummins	9CEXL0661AAG
2009	Cummins	9CEXL0661AAJ

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Engine families with a minimum exhaust temperature criterion of either:

For Table 1

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over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
------------	--------------	---------------

Table 2

Model Year	Manufacturer	Engine Family
2009	Caterpillar	9CPXL07.2ESL
2009	Caterpillar	9CPXL08.8ESK
2009	Caterpillar	9CPXL11.1ESK
2009	Caterpillar	9CPXL12.5ESK
2009	Caterpillar	9CPXL12.5ESX
2009	Caterpillar	9CPXL15.2ESW
2009	Caterpillar	9CPXL18.1ESK
2009	Doosan Infracore	9DIDL07.6UPA
2009	Doosan Infracore	9DIDL11.0UJA
2009	Deere	9JDXL06.8049
2009	Deere	9JDXL06.8080
2009	Deere	9JDXL06.8104
2009	Deere	9JDXL08.1037
2009	Deere	9JDXL09.0114
2009	Komatsu	9KLXL0409AAB
2009	Komatsu	9KLXL0409AAC
2009	Komatsu	9KLXL0505AAE
2009	Liebherr	9LHAL10.5LPA
2009	Liebherr	9LHAL12.0KPA
2009	Liebherr	9LHAL24.2VCI
2009	Liebherr	9LHAL9.54SPA
2009	DaimlerChrysler	9MBXL07.2RJA
2009	Perkins	9PKXL12.5TAG
2009	Perkins	9PKXL15.2TAG
2009	Iveco	9VEXL06.7DGB
2009	Iveco	9VEXL06.7DGS
2009	Iveco	9VEXL08.7TR3
2009	Iveco	9VEXL10.3MLR
2009	Iveco	9VEXL10.3TR3
2009	Iveco	9VEXL12.9IGR
2009	Iveco	9VEXL12.9MLR
2009	Iveco	9VEXL12.9TCD
2009	Scania	9Y9XL11.7BBA
2009	Scania	9Y9XL11.7BBB
2010	Cummins	ACEXL015.AAE
2010	Cummins	ACEXL015.AAH
2010	Cummins	ACEXL0409AAB
2010	Cummins	ACEXL0409AAD
2010	Cummins	ACEXL0505AAE
2010	Cummins	ACEXL0540AAB
2010	Cummins	ACEXL0540AAC
2010	Cummins	ACEXL0540AAD
2010	Cummins	ACEXL0661AAG
2010	Cummins	ACEXL0661AAH
2010	Cummins	ACEXL0661AAJ
2010	Caterpillar	ACPXL07.2ESL
2010	Caterpillar	ACPXL08.8ESX
2010	Caterpillar	ACPXL10.3ESL
2010	Caterpillar	ACPXL11.1ESK
2010	Caterpillar	ACPXL12.5ESK
2010	Caterpillar	ACPXL12.5ESX
2010	Caterpillar	ACPXL14.6ESK

ARB Approved Engine Families for the Cleaire Allmetal™ System

CARB Verification Number: CA/CLE/2009/PM3+/N00/OF/DPF02

Engine families with a minimum exhaust temperature criterion of either:

For Table 1

Over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

For Table 2

over 260 Celsius for at least 55 percent of the time, or
over 300 Celsius for at least 80 percent of the time, or
over 400 Celsius for at least 25 percent of the time.

Table 1

Model Year	Manufacturer	Engine Family
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Table 2

Model Year	Manufacturer	Engine Family
2010	Caterpillar	ACPXL15.2ESW
2010	Caterpillar	ACPXL15.2ESX
2010	Komatsu	AKLXL0409AAB
2010	Komatsu	AKLXL0409AAC
2010	Komatsu	AKLXL0505AAE