

List of references

Densit® installations in the cement and lime industry

Maintenance deliveries:

| Plant | Year | Densit® installation | Densit® material | Medium |
|---|----------------|--|--|---|
| Australia | | | | |
| Gwalia Consolidated | 1994: | Extractor bends | WearCast 2000 | Lithium |
| Westralian Sands Perth | 1994: | Flash dryer uptake | WearCast 2000 HT | Illmenite |
| Cockburn Cement Perth | 1994: | Stage 1 cyclone Coal bends no. 5 kiln No. 1 kiln fan housing | WearCast 1000 WearCast 1000 WearCast 2000 | Lime Coal Clinker dust |
| Austria | | | | |
| Perlmooser Zement Mannersdorf | 1992 & 93: | Dedusting pipe Dryer and crusher Turbo separator | WearFlex 2000 WearFlex 2000 WearFlex 2000 | Cement Cement Cement |
| | 1994: | Separator | WearCast 2000 | Cement |
| Zementwerk Eiberg Kufstein | 1994: | Dedusting pipe Clinker chute | WearCast 2000 WearFlex 2000 | Cement Clinker |
| Belgium | | | | |
| CBR Lixhe | 1992 & 93: | Lining of dedusting cyclones | WearCast 2000 HT | Clinker dust |
| St. Antoing | 1989: 1991: | Lining of dedusting cyclone Lining of cement separator Lining of tertiary duct system Lining of clinker chute | WearCast 1000 WearCast 1000 WearCast 1000 HT WearCast 1000 | Clinker dust Cement Clinker dust Clinker |
| C.C.B. Tournai | 1993: 1994: | Lining of cement separator Exhaust gas cyclones Dedusting duct Lining of turboseparator | WearCast 2000 WearCast 2000 HT WearCast 2000 HT WearFlex 2000 | Cement Clinker Clinker Cement |
| Dumont Wautier | 1992: | Lime kiln | WearCast 1000 HT | Warm lime |



| Plant | Year | Densit® installation | Densit® material | Medium |
|-----------------------------------|--|---|--------------------------------------|---------------------------|
| Brazil | | | | |
| Cia. Cearense de Cimentos | | | | |
| Portland - Votorantim | 1995: | Dedusting duct between separator and bag filter | WearFlex 2000 | Cement |
| Cia. Cimentos Portland | | | | |
| Rio Branco | 1994 & 95: 1989: | Fan case housing Lining of FLS Sepax® separator | WearFlex 2000 WearCast 1000 | Clinker dust Cement |
| CIMBAGÉ | | | | |
| Canoas | 1995: | 2 cement separators | WearFlex 2000 | Cement |
| Candiota | 1993: | Conical part of coal mill | WearFlex 2000 | Coal |
| Cimentos CAUÊ | | | | |
| Pedro Leopoldo | 1995: | Raw meal cyclone, 30 m ² | WearFlex 2000 | Raw meal |
| CIMINAS | | | | |
| Pedro Leopoldo | 1994: 1995: | Raw meal cyclone Conical part of coal mill | WearFlex 2000 WearFlex 2000 | Raw meal Coal |
| Electro Manganês | 1995: | Pneumatic transportation system for manganes and coal | WearFlex 2000 | Manganes ore + coal |
| ITABIRA | | | | |
| Agro Industrial | | | | |
| Fabrica de Capão Bonito | 1989: | Lining of two FLS Sepax® cement separators | WearCast 1000 | Cement |
| Cachoeira do Itapemirim | 1989: | Lining of one FLS Sepax® cement separator | WearCast 1000 | Cement |
| ITAÚ de Minas | 1995: | Lining of FLS Atox® vertical mill | WearFlex 2000 | Raw meal |
| MATSULFUR | | | | |
| | 1994: | Lining of bend for pneumatic transport of cement Chain conveyor for coal | WearFlex 2000 WearFlex 2000 | Cement Coal |
| MAUÁ | | | | |
| Matosinhos | 1994: | Lining of raw meal cyclone | WearFlex 2000 | Raw meal |
| Minercal | 1994: | Cyclone for lime | WearFlex 2000 | Lime dust |
| S.A. Industrias Votorantim | | | | |
| Fábrica de Santa Helena | 1989 & 95: | Lining of cement separator | WearCast 1000 WearFlex 2000 | Cement |
| Fábrica de Rio Negro | 1995: | Lining of cyclone for cement | WearFlex 2000 | Cement |
| Tocantins | 1995: | Lining of FLS Atox® vertical mill | WearFlex 2000 | Raw meal |
| TUPI | | | | |
| Volta Redonda | 1994: | Lining of conical part of cyclone | WearFlex 2000 | Cement |
| Cyprus | | | | |
| Vassiliko Cement | | | | |
| Nicosia | 1990, 91, 92, 93, 94 & 95: 1994: | Dedusting canals & cyclones after clinker cooler Lining of coal mill | WearCast 1000 HT WearCast 1000 HT | Clinker dust Coal dust |
| Cyprus Cement | 1992: | Wear lining of dedusting duct | WearFlex 2000 | Clinker dust |

| Plant | Year | Densit® installation | Densit® material | Medium |
|------------------------------------|--------------------------|--|-----------------------------------|----------------------------|
| Denmark | | | | |
| Aalborg Portland Aalborg | 1981: | Lime and raw meal chute material chute | WearCast 1000 | Lime |
| | 1984 & 87: | Dedusting cyclone | WearCast 1000 | Cement & raw meal |
| | 1985, 86, 87 88 & 91: | Bends for pneumatic conveyance | WearCast 1000 | Cement, coal dust & PFA |
| | 1987 & 91: | Lining of pyrite ash silo | WearCast 1000 | Pyrite ash |
| | 1987: | Wear panels for chain conveyor | WearCast 1000 | Clinker |
| | 1988: | 2 slide gates in tertiary pipes 66 wear panels for chain conveyor in M/S Portland | WearCast 1000 HT WearCast 1000 | Hot air PFA/cement |
| | 1989: | 614 wear panels for chain conveyor in M/S Portland 1,038 wear panels for chain conveyor in M/S Kongsdal | WearCast 1000 WearCast 1000 | PFA/cement PFA/cement |
| | 1992: | Riser pipe for raw meal | WearFlex 2000 | Raw meal |
| | 1993: | Lead panels for FLS-Sepax® separator | WearCast 2000 | Cement |
| | Finland | | | |
| Partek Pargas | 1990: | Lining of cement separator | WearCast 1000 | Cement |
| France | | | | |
| CALCIA Airvault | 1993: | Lining of a grinding mill separator | WearFlex 2000 | Cement |
| | 1994: | Lining of a hopper Grinding mill conus | WearCast 2000 WearFlex 2000 | Limestone Cement |
| Cedest Ebhange | 1989: | Wear lining of dedusting duct | WearCast 1000 | Clinker dust |
| | 1989 & 91: | Wear lining in dryer | WearCast 1000 HT | Slag |
| Dannes | 1991: | Wear lining in bottom of chain conveyor | WearCast 1000 | Clinker |
| | 1993: | Wear lining in separator | WearFlex 2000 | Cement |
| Distroff | 1990: | Wear lining of chute | WearCast 1000 | Raw meal |
| Hemming | 1992: | Wear lining cyclones | WearFlex 2000 | Slag |
| | 1993: | Pipes & bends | WearCast 2000 | Cement |
| Français Beffes | 1989: | Lining in chain conveyor | WearCast 1000 | Clinker |
| Cruas | 1992 & 93: | Wear lining of duct and by-pass | WearFlex 2000 | Raw meal & cement |
| Rombas | 1991 & 92: | Wear lining of slag dryer | WearCast 1000/ WearFlex 2000 | Slag |
| Villiers Au Bois | 1991: | Lining in chain conveyor | WearCast 1000 | Clinker |
| Airvault | 1993: | Wear lining in high efficiency separator | WearFlex 2000 | Cement |

The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|--------------------|-----------------------|---|------------------------------------|-------------------|
| Lafarge | | | | |
| Le Teil | 1990: | Dedusting channel from kiln to silo | WearCast 1000 HT | Clinker dust |
| | 1992: | Wear lining of chute | WearFlex 500 | Raw meal |
| | | Conical part of separator | WearFlex 2000 | Cement |
| | 1993: | Wear lining in vertical mill | WearFlex 3000 | Raw meal |
| 1994: | Lining of pipes | WearCast 2000 | Cement | |
| Lexos | 1990: | Wear lining of cement mill outlet Chain conveyor | WearCast 1000 | Cement Clinker |
| La Malle | 1995: | Regulator for by-pass | WearCast 2000 HT | Clinker |
| St. Pierre La Cour | 1989 & 92: | Wear lining of dedusting ducts | WearCast 1000 | Clinker dust |
| | 1992 & 93: | Wear lining of separators | WearFlex 2000 | Cement |
| Origny | | | | |
| Altkirch | 1991: | Pipes & bends | WearCast 2000 | Cement |
| Dannes | 1994: | Casing of ventilator CP coal pipe bends | WearCast 3000 HT WearCast 2000 | Clinker Coal |
| | 1995: | Repair of bend | WearCast 2000 HT | Cement |
| Lumbres | 1991: | Wear lining of separators | WearFlex 2000 | Cement |
| | 1994: | Lining of pipes | WearCast 2000 | Cement |
| Sainte Benoîte | 1989, 90, 92 & 93: | Wear lining in tertiary air system | WearCast 1000 HT/ WearCast 2000 | Clinker dust |
| | 1989, 90 & 91: | Wear lining in high efficiency separator | WearCast 1000 | Cement |
| | 1989 & 90: | Wear lining in dryer | WearCast 1000 HT | Raw meal |
| | 1994: | Gas evacuation duct | WearFlex 2000 | Cement |
| Vicat | | | | |
| Chambéry | 1991: | Wear lining of static separator | WearCast 1000 | Cement |
| | | Wear lining of a fan casing | WearCast 1000 | Clinker dust |
| Créchy | 1991: | Wear lining of a fan casing | WearCast 1000 | Clinker dust |
| | 1991 & 92: | Wear lining of high efficiency separator | WearCast 1000/ WearFlex 2000 | Cement |
| Montalieu | 1991: | Chain conveyor | WearCast 1000 | Cement |
| | 1992: | Dedusting duct | WearCast 1000 | Cement |
| | | Chute | WearCast 1000 | Clinker |
| | 1993: | Wear lining of high efficiency separator | WearFlex 2000 | Cement |
| | | Pipes | WearCast 2000 | Cement |
| | 1994: | Lining of bends | WearCast 2000 | Cement |
| 1995: | Pipes | WearCast 2000 HT WearFlex 2000 | Cement Cement | |
| Xeully | 1989, 90 & 93: | Wear lining of high efficiency separator | WearCast 1000 | Slag & cement |
| | 1990: | Wear lining of static separator | WearCast 1000 | Cement |
| | | Dedusting cyclone | WearCast 1000 | Clinker dust |
| 1994: | Turboseparator | WearFlex 2000 | Clinker | |

The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|----------------------------|------------|---|------------------|-----------------|
| Germany | | | | |
| Anneliese Zement | | | | |
| Ennigerloh | 1992 & 93: | Lining of satellite cooler outlet | WearFlex 2000 | Clinker |
| | 1992: | Chute for clinker | WearFlex 2000 | Clinker |
| | 1995: | Separator | WearFlex 2000 | Clinker |
| Alsen-Breitenburg | | | | |
| Lägerdorf | 1992 & 93: | Polysius Separator outlet | WearFlex 2000 | Cement/clinker |
| | | By-pass between mill and separator | WearCast 2000 | Clinker |
| | 1993: | Lining of Sandbunker | WearCast 2000 | |
| | | Pipes | WearCast 1000 | Clinker |
| | 1995: | Dedusting cyclones | WearCast 1000 HT | Clinker dust |
| Bremen | 1993: | Outlet in slag bin | WearCast 1000 | Slag |
| Dyckerhoff | | | | |
| Lägerich | 1994: | Chain conveyor | WearCast 1000 HT | Clinker |
| HeidelbergerZement | | | | |
| Burglengenfeldt | 1990 & 91: | Dedusting pipe in clinker cooler | WearCast 1000 | Clinker dust |
| Lengfurt | | | | |
| Treifenstein | 1993: | Dedusting pipe in clinker cooler | WearFlex 2000 | Clinker dust |
| Gebr. Seibel | | | | |
| Erwitte | 1992: | Chain conveyor | WearFlex 2000 | Clinker |
| | 1993: | Chain conveyor | WearCast 1000 HT | Cement |
| | 1994: | Conical part of Polysius separator | WearFlex 2000 | Cement/clinker |
| | 1994: | Separator | WearFlex 2000 | Cement |
| | 1995: | Chain conveyor | WearCast 2000 HT | Cement |
| Wössinger Zement | | | | |
| Walzbachtal | 1991: | Turbo separators | WearCast 1000 | Cement |
| Wülfrather Zement | | | | |
| Duisburg | 1990: | Cyclone cone in grinder | WearCast 1000 | Cement/raw meal |
| Sötenich | 1995: | Pipes | WearCast 2000 HT | Clinker |
| Rheinische Kalk | | | | |
| Wülfrath | 1991: | Cyclones and inlets | WearFlex 1000 | Cement/raw meal |
| | 1993: | Pipes | WearCast 2000 | Cement dust |
| Rüdersdorfer Zement | | | | |
| Rüdersdorf | 1992: | Cyclones | WearFlex 2000 | Cement/raw meal |
| | | Cylindrical part between mill and separator | WearFlex 2000 | Cement |
| Karsdorfer Zement | | | | |
| Karsdorf | 1995: | Separator | WearFlex 3000 | Cement |
| Schwenk Zementwerke | | | | |
| Bernburg | 1995: | Chute for clinker | WearFlex 2000 | Cement/clinker |
| | | Bunker | WearFlex 2000 | Cement |
| | | Classifier | WearFlex 2000 | Cement |
| | | Chute | WearFlex 2000 | Cement |

The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|---|------------|--|------------------|--------------|
| India | | | | |
| Cimco | 1994: | KHD cement separator | WearFlex 2000 | Cement |
| Indonesia | | | | |
| Indocement | | | | |
| West Java | 1995: | Cooler duct EP | WearFlex 2000 | Cement |
| Semen Padang | | | | |
| Padang | 1995: | Wearplates in Lösche mill | WearCast 3000 | Raw meal |
| | 1995: | FLS-CV separator | WearFlex 2000 | Raw meal |
| Italy | | | | |
| A. Barbetti | | | | |
| Gubbio | 1993: | Dedusting duct from separator | WearFlex 2000 | Cement dust |
| | 1995: | Duct from grate cooler | WearCast 2000 HT | Clinker dust |
| Impianti Bazzi | | | | |
| Casale - Monserrato | 1993: | Lining of cement separator | WearCast 2000 | Cement |
| | 1994: | Dedusting duct | WearCast 2000 | Clinker dust |
| Plant in Mexico | 1995: | Cement separator | WearCast 2000 | Cement |
| | 1996: | Cement separator | WearCast 2000 | Cement |
| | 1996: | Cyclone | WearCast 2000 | Clinker dust |
| Cementir | | | | |
| Spoletto | 1993: | Cyclone dedusting excess air from grate cooler | WearCast 2000 HT | Clinker dust |
| | 1995: | Dedusting duct | WearCast 1000 HT | Clinker dust |
| Cassago | | | | |
| | 1994: | Dedusting duct from separator | WearFlex 2000 | Cement dust |
| Cementerie del Centro Nord | | | | |
| Siniscola | 1993: | Pipe bends in pneumatic cement transport | WearFlex 2000 | Cement |
| COLACEM | | | | |
| Caravate | 1994 & 95: | Front plate in grate cooler | WearCast 2000 HT | Clinker |
| Ghigiano | 1994: | Front plate in grate cooler | WearCast 2000 HT | Clinker |
| | 1994: | Lining of tertiary air duct | WearCast 1000 HT | Clinker dust |
| | 1995: | Valve, tertiary air duct | WearCast 1000 HT | Clinker dust |
| Galatina | 1995: | Cement separator | WearFlex 2000 | Cement |
| ENIRISORSE | | | | |
| Paderno - Dugnano | 1994: | Lining, dedusting duct metal melting kiln | WearCast 2000 HT | Slag dust |
| Felice Rusconi | | | | |
| | 1994: | Front plate in grate cooler | WearCast 2000 HT | Clinker |
| Industria Cementi Giovanni ROSSI | | | | |
| Piacenza | 1993: | Fan casing, excess air from grate cooler | WearFlex 2000 | Clinker dust |
| | 1994: | 3 cyclones, dedusting excess air from grate cooler | WearFlex 2000 | Clinker dust |
| | 1995: | Pipes in kiln system | WearCast 1000 HT | Clinker dust |
| | | Cyclones | WearFlex 2000 | Clinker dust |
| Pederobba | 1993: | Chute, clinker transport | WearCast 2000 | Clinker |
| Fumane | 1995: | Cement separator | WearFlex 2000 | Cement dust |



The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|---------------------------------|-------------------------|--|--|---------------------------------------|
| ITALCEMENTI | | | | |
| Calusco D'adda | 1994 & 95: | Dedusting duct from separator | WearFlex 2000 | Cement dust |
| Merone-Ceti | 1993 & 94: 1995: | 5 cyclones Deflector in Polysius Vertical roller mill | WearCast 1000 HT WearFlex 2000 | Clinker dust Raw meal |
| Cementeria di Monselice | 1989: | Throat in FLS-ATOX-mill | WearCast 1000 | Raw feed |
| Cementeria di Moranno Po | 1993: | Fan casing, excess air from grate cooler | Wear Cast 1000 | Clinker dust |
| Cementeria di Merone | | | | |
| Moranno Po | 1994: | 1 cyclone, dedusting excess air from grate cooler | WearCast 2000 HT | Clinker dust |
| Cementi Riva | | | | |
| Riva | 1993: 1995: | Fan casing, excess air from grate cooler Unknown | WearFlex 2000 HT WearCast 2000 | Clinker dust Unknown |
| SACCI | | | | |
| Cagnano | 1993 1995: | Chute from grate cooler Unknown | WearCast 2000 HT WearFlex 2000 | Clinker Unknown |
| Castelraimondo | 1995: | Unknown | WearFlex 2000 | Unknown |
| UNICEM | | | | |
| Guidonia | 1993: 1993: | Chute for raw meal Front plate and chute in grate cooler | WearFlex 2000 WearCast 2000 HT | Raw meal Clinker |
| S. Arcangelo | 1993: 1993: | Chute from grate cooler Chute, clinker transport | WearFlex 2000 WearFlex 2000 | Clinker Clinker |
| Vernasca | 1994: 1995: 1995: | Cement separator Chute in precipitator Dedusting ducts | WearFlex 2000 WearFlex 2000 WearCast 2000 HT | Cement Cement dust Clinker dust |
| Barletta | 1994 | Unknown | WearFlex 2000 | Unknown |
| Travesio | 1996 | Cyclone | WearFlex 2000 | Clinker dust |
| PRESACEMENTI | | | | |
| | 1995: 1996: | Raw Mill Department Ducting | WearCast 2000 WearFlex 2000 | Raw meal Clinker dust |
| SICILIANA | | | | |
| Ragusa | 1996: | Cement separator | WearFlex 2000 | Cement |
| Korea | | | | |
| Asia Cement | | | | |
| Jaechon | 1995: | Raw meal duct Raw meal cyclones | WearFlex 2000 WearFlex 2000 | Raw meal Raw meal |
| Malaysia | | | | |
| Cement Manuf. | | | | |
| Sarawak - Kuching | 1994: | Krupp - Polysius Sepol separator | WearFlex 2000 | Cement |
| Cima | | | | |
| Perlis | 1994: | Onoda turbo separator | WearFlex 2000 | Cement |
| APMC | | | | |
| Rawang | 1995: | Raw meal pipework | WearCast 3000 | Raw meal |

The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|---------------------|--|--|--|---|
| Mexico | | | | |
| Cementos | | | | |
| Monctezuma | | | | |
| Tepezitido plant | 1996: | 4 clinker dedusting cyclones Bazzi cement separator | WearCast 1000 HT WearCast 1000 HT | Clinker Cement |
| Norway | | | | |
| Norcem A/S | | | | |
| Kjøpsvik | 1991: 1992: 1993 & 94 1995: | Chain conveyor and FLS-Atox mill Lining of dedusting cyclone Pipes Lining of chain conveyor | WearFlex 2000 WearFlex 2000 WearCast 2000 WearCast 3000 | Clinker Cement Cement Clinker |
| Philippines: | | | | |
| Solid Cement | 1995: | Clinker pre-grinding duct | WearFlex 2000 | Cement |
| Portugal | | | | |
| Cimpor | | | | |
| Alhandra | 1993 & 94: 1993 & 94: 1994: 1995: 1996: | Dedusting duct from cement separator (OSEPA) Raw mill outlet Lining of cement separator (Sepol Polysius) Lining of bag filter inlet Dedusting ducts of raw mill nr. 6 | WearFlex 2000 WearFlex 500 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 | Cement Raw meal Cement Cement Raw meal |
| Loulé | 1994: 1996: | Lining of dedusting duct after grate cooler Outlet of coal mill KHD cement separator Grate cooler dedusting hopper | WearCast 2000 HT WearCast 1000 HT WearFlex 2000 WearFlex 2000 WearFlex 2000 | Clinker dust Coal Cement Cement |
| Souselas | 1992: 1996: | Lining of 2 cement separators (Sepol Polysius) Clinker dedusting duct | WearFlex 500 WearFlex 2000 | Cement Clinker |
| CMP | | | | |
| Pataias | 1993: | Lining of cyclone | WearFlex 2000 | Raw feed |
| Secil | | | | |
| Setúbal | 1987, 88 & 89: 1993, 94 & 95: 1994: 1994 & 95: 1996: | Lining of 3 FLS-Sepax separators Ducts and bends for clinker dedusting Dedusting cyclone Bends and pipes Bottom of bag filter Lining of riser pipe FLS-Atox vertical mill Inlet of electrofilter Coal bends Dedusting duct of raw mill Raw mill cyclones | WearCast 1000 WearFlex 2000 WearFlex 2000 WearCast 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 WearFlex 2000 | Cement Clinker dust Raw meal Coal dust Cement Raw meal Raw meal Raw meal Coal Raw meal Raw meal |

The cement and lime industry

List of references

| Plant | Year | Densit® installation | Densit® material | Medium |
|----------------------------|------------|--|------------------|-----------|
| Spain | | | | |
| Asland | | | | |
| Cordoba | 1989: | Sepax separator | WearCast 1000 | Cement |
| | 1994: | Dedusting duct between the mill and electrofilters | WearFlex 2000 | Raw meal |
| Montcada | 1988: | Sepax separator | WearCast 1000 | Cement |
| Niebla | 1989: | Sepax separator | WearCast 1000 | Cement |
| Sagunto | 1988: | Sepax separator | WearCast 1000 | Cement |
| | 1994: | Sepax separator | WearFlex 2000 | Cement |
| Villaluenga | 1988: | Sepax separator | WearCast 1000 | Cement |
| Financiera Y Minera | | | | |
| Malaga | 1994: | Atox mill | WearFlex 2000 | Coal dust |
| Hispania | | | | |
| Yeles | 1994: | Pipe bends | WearFlex 2000 | Coal dust |
| | 1995: | Pipe bends | WearCast 2000 | Cement |
| Lacsa | | | | |
| Sant Feliu | 1988: | Sepax separator | WearCast 1000 | Cement |
| | 1989: | Sepax separator | WearCast 1000 | Raw meal |
| Castillejo | 1989: | Sepax separator | WearCast 1000 | Cement |
| | 1993: | Atox mill | WearCast 1000 | Coal dust |
| | 1995: | Dedusting cyclones | WearFlex 500 | Coal dust |
| Cementos Molins | | | | |
| Barcelona | 1994 & 95: | Flash dryer | WearFlex 2000 | Raw meal |
| | 1995: | Duct bends | WearFlex 2000 | Clinker |
| Morata de Jalon | | | | |
| Zaragoza | 1988: | Sepax separator | WearCast 1000 | Cement |
| | 1995: | Pipe bends | WearCast 2000 | Cement |
| Rezola Añorga | | | | |
| San Sebastian | 1994 & 95: | Loesche vertical mill | WearFlex 2000 | Raw meal |
| Tudela Veguin | | | | |
| Abono | 1990: | Sepax separator | WearCast 1000 | Cement |
| | 1991: | Sepax separator | WearCast 1000 | Cement |
| La Robla | 1992: | Sepax separator | WearCast 2000 | Cement |
| Uniland Monjos | | | | |
| Barcelona | 1995: | Dedusting cyclones Lurgi | WearFlex 2000 | Clinker |
| Valenciana | | | | |
| Alcanar | 1993: | Sturtevant separator SD160 | WearFlex 2000 | Cement |
| | 1994: | Sturtevant separator SD120 | WearFlex 2000 | Cement |
| | 1993 & 94: | Dedusting cyclones Lurgi | WearFlex 2000 | Clinker |
| Alcala | 1995: | Inlet of cement mill | WearFlex 2000 | Cement |
| Valderrivas | | | | |
| El Alto | 1991: | Sepax separator | WearCast 1000 | Cement |
| Vicalvaro | 1990: | Sepax separator | WearCast 1000 | Cement |
| Hontoria | 1988: | Sepax separator | WearCast 1000 | Cement |



| Plant | Year | Densit® installation | Densit® material | Medium |
|-------------------------------|----------------|-------------------------------------|------------------|------------------------|
| Sweden | | | | |
| Cementa AB | | | | |
| Degerhamn | 1993 & 94: | Pipes for raw meal | WearCast 2000 | Lime |
| | 1994: | Separator for raw meal | WearFlex 2000 | Lime |
| | 1996: | Separator for raw meal | WearFlex 2000 | Lime |
| Skövde | 1992 & 94: | Chute | WearFlex 2000 | Lime |
| | | Chain conveyer | WearCast 2000 | Coal |
| | 1993: | Separator for raw meal | WearFlex 2000 | Lime |
| | 1995: | Chute | WearFlex 2000 | Raw meal |
| Slite | 1993: | Dedusting cyclones | WearCast 2000 HT | Clinker dust |
| | 1994: | Coal mill | WearFlex 2000 | Coal |
| Hydro Supra AB | | | | |
| Köping | 1987: | Fan housing | WearFlex 2000 | Lime |
| | 1987 & 88: | Chute | WearCast 1000 | Lime |
| Höganäs AB | | | | |
| Höganäs | 1992, 93 & 94: | Cyclone | WearCast 2000 | Coke |
| | 1992: | Bends | WearCast 2000 | Lime |
| Switzerland | | | | |
| Ciments et Béton | | | | |
| Eclepens | 1990: | Wear lining of tertiary pipe system | WearCast 1000 | Hot air & clinker dust |
| Bündner Zementwerke | | | | |
| Untervaz | 1991: | Lining of cyclones and inlet pipes | WearCast 1000 | Cement |
| HCB-Holderbank | | | | |
| Rekingen | 1994: | Raw meal mill, side panels | WearFlex 2000 | Raw meal |
| Portland Zementwerk AG | | | | |
| Thayngen | 1994: | Wear protection in separator | WearFlex 2000 | Cement & raw meal |
| Taiwan | | | | |
| Asia Cement | | | | |
| Hualien | 1994: | Overflow pipe | WearFlex 2000 | Clinker |
| | | Chain conveyer | WearFlex 2000 | Clinker |
| | 1995: | Duct | WearFlex 2000 | Cement |
| | | Chute | WearFlex 2000 | Clinker |
| | 1996: | V-Separator | WearFlex 2000 | Cement |

| Plant | Year | Densit® installation | Densit® material | Medium |
|---|-------------|---|---|------------------------------------|
| Taiwan Cement Engineering Hualien | 1995: | Duct between Osepa & bag filter | WearFlex 2000 | Clinker |
| Lucky Cement Suao | 1995: | FLS Sepax® separator | WearFlex 2000 | Cement |
| China Rebar Cement Tungshan | 1995: | Fan casing | WearFlex 2000 | Clinker dust |
| China Hi-ment Kaohsiung | 1995: | Krupp Polysius flash dryer | WearFlex 2000 | Slag |
| Universal Cement Kaohsiung | 1994: | Clinker chute | WearFlex 2000 | Clinker |
| Thailand | | | | |
| TPI Polene Saraburi | 1995: | Raw meal mill housing | WearFlex 2000 | Raw meal |
| The Netherlands | | | | |
| Cemij Rotterdam | 1993: | In- and outlets in cement mills | WearFlex 2000 | Cement |
| Turkey | | | | |
| Adana Cimento Adana | 1994: | Cement separator pipes Clinker chute | WearFlex 2000 WearFlex 2000 | Clinker Clinker |
| Canakkale Cimento Istanbul | 1994: | 2 FLS Fuller separators Duct for cement Clinker chute | WearFlex 2000 WearFlex 2000 WearFlex 2000 | Clinker Clinker Clinker |
| N.U.H. Cimento Istanbul | 1994: | Krupp-Polysius separator Ducts for cement Clinker chute | WearFlex 2000 WearFlex 2000 WearFlex 2000 | Clinker Clinker dust Clinker |
| ESCIM Cimento Eskisehir | 1994: | Trials in clinker chutes | WearFlex 2000 | Clinker |
| Denizli Cimento Denizli | 1995: | Clinker chute | WearFlex 2000 | Clinker dust |

| Plant | Year | Densit® installation | Densit® material | Medium |
|------------------------------|-------|---|--------------------------------|--------------------|
| United Kingdom | | | | |
| Blue Circle Cement | | | | |
| Aberthaw | 1992: | Bends and Sepax air intake | WearFlex 2000 | Cement |
| | 1994: | Sepax duct inspection pieces | WearFlex 2000 | Cement |
| Cauldon | 1992: | Pre cyclone centre section | WearFlex 2000 | Raw meal |
| | 1993: | Wear lining of preheating cyclone | WearFlex 2000 | Raw meal |
| Cookstown | 1991: | Wear lining of chain conveyor | WearFlex 2000 | Clinker |
| | 1994: | Lorry loading pipes. 4" NB x 45 off Silo feed pipes. 10" NB x 90 degrees | WearCast 2000 WearCast 2000 | Cement Cement |
| Hope | 1994: | Storage silos pipes. 10" NB. 20 off Coal mill feed pipes and valves. 6" | WearCast 2000 WearCast 2000 | Clinker Coal |
| Northfleet | 1992: | DCE cyclones Mill trunion ring | WearFlex 1000 WearFlex 1000 | Coal |
| | 1993: | Coal mill feed pipe Beumer feed box | WearCast 1000 WearFlex 2000 | |
| Plymstock | 1985: | Duct between separator and cyclone Fan casing in coal conveyor | WearFlex 1000 WearFlex 1000 | Cement Coal |
| | 1994: | Raw meal cyclones and riser duct | WearFlex 2000 | Raw meal |
| Swanscombe | 1992: | Wash drum mill trunion rings | WearFlex 2000 | |
| Civil and Marine | | | | |
| Llanwern | 1993: | Wear lining of flash dryer stack | WearFlex 2000 | Slag |
| Hepworth Minerals | | | | |
| Kingslynn | 1993: | Wear lining of separator | WearFlex 2000 | Cement |
| Rugby Portland Cement | | | | |
| Rochester | 1992: | Pipe components from cement mill 90 degree bends mill transport lines | WearCast 2000 WearCast 2000 | Cement Cement |
| | 1994: | Mill feed pipes 6" NB | WearCast 2000 | Cement |
| Southferryby | 1993: | Clinker cooler duct | WearCast 1000 HT | Clinker |
| Sean Quinn Cement | | | | |
| Derrylin | 1992: | Mill outlet | WearFlex 2000 | Raw meal |
| Singleton Birch | | | | |
| Humberside | 1992: | Scrubber containers Separator cones | WearFlex 2000 WearFlex 2000 | Raw meal Cement |
| Vietnam | | | | |
| Vietnam Union Cem. | | | | |
| Hoang Thach II | 1995: | FLS-Atox® wear plates | WearCast 2000 | Raw meal |

List of references

Densit® installations in the cement and lime industry

Deliveries through system suppliers:

F.L. Smidth Sepax® Separator

The Densit® wear protection products have been specified by F.L. Smidth as wear protection in their Sepax® Separators for cement and raw meal. The Densit® products have been installed on the riser pipe, the reject cone, the wall sections and the fines outlet section. The dedusting cyclones are also lined when these are within the supply scope of the Sepax®.

Brazil:

1986: Votorantim - Santa Helena
1987: Votorantim - Poty
1987: Camargo Correa - Bodoquena
1987 & 91: Camargo Correa - Apiai
1988: Niquel Tocantins
1989: Joao Santos Capo Bonito
1989: Joao Santos Itabria

Canada:

1988: St. Marys - Bowmanville
1989: St. Laurence - Beauport

Chile:

1991: Cemento Melon

P.R. of China:

1989: Shanghai Cement
1993: Yantai
1993: Chongqing
1994: Guangzu, Yunfu
1994: Wulan

Columbia:

1989 & 93: Rio Claro
1994: Boyaca

Cyprus:

1987: Vassiliko Cement Works Ltd.

Denmark:

1987 & 94: Aalborg Portland

Egypt:

1994: Alexandria, PPC

Eire:

1987: Irish Cement - Platin

Finland:

1987: Lohja - Virkkala
1987: Partek - Pargas

France:

1992: Ciments d'Origny - Lumbres

Great Britain:

1990: Civile & Marine
1992: Blue Circle - Aberthaw

Greece:

1987 & 94: Titan - Kamari

Guatemala:

1988: Cementos Progreso

Hong Kong:

1990: China Cement - Tap Shek Kok

Iceland:

1989: Akranes

India:

1989: Shree Beawar
1991: Hirmi
1991: Iharsuguda
1991: Tata Chemicals - Mithapur
1992: Guajarat
1992: Hira Cement
1992: Maihar Cement
1992: ACC Kaymore
1994: DLF Cem. Ltd.
1994: Jaypee Bela
1994: Prism
1994: Sanghi



F.L. Smidth Sepax® Separator continued

Indonesia:

1990: Tonasa
1991: P.T. Semen - Padang

Jordan:

1994: Jordan C.F.C. Ltd.

Lithuania:

1991: Akmenes Cement

Mexico:

1988: CEMEX - Monterey
1988: CEMEX - Torreon
1988: CEMEX - Valles
1989: Cementos Guadalajara
1990: Mexicanos - Yaqui
1991: CEMEX - Huichapan
1991: Tolteca - Atotonilco
1992: Tolteca - Tepeaca
1992: Chihuahua

Morocco:

1988: CimENTS d'Agadir

The Netherlands:

1990: ENCI N.V.
1991: Robur

Norway:

1988: Norcem - Dalen
1991: Norcem - Kjöpsvik

Northern Ireland:

1989: Sean Quinn

Pakistan:

1990: WAH
1990: Pioneer
1994: Fauji
1994: D.G. Kahn
1994: Kohinor Tex. Maple Leaf

Philippines:

1991: HI Cement
1992: Solid Cement

Portugal:

1988 & 89: Secil Setubal

Puerto Rico:

1986: San Juan

Singapore:

1992: Ssangyong
1992: Jurong

Spain:

1987: Asland - Cordoba
1987 & 88: Asland - Sagunto
1987: Asland Villaluenga
1987: Morata de Jalon
1987: Cementos Molins
1987: Hontoria
1987: Sanson - Santa Cruz
1988: Asland - Montcada
1989: Cantábrico
1989: Asland - Niebla
1989 & 90: Portland Iberia
1990: Tudela Aboño
1990: Valenciana Bonol
1991: Valderivas el Alto
1992: La Robla

Taiwan:

1990: Constant Stamnia
1993: Lucky Cement

Thailand:

1989 & 92: Siam Cement - Thung Song
1989: Jalapra-thran Cement - Takli
1989: Jalapra-thran Cement - Cha Am
1990 & 91: Siam City Cement - Tabfa
1990 & 92: Siam Cement - Kaeng Khoi
1990: Siam City Cement - Tabkwang
1991 & 92: Siam Cement - Ta Luang
1992 & 94: Asia Cement

Turkey:

1988: Cimsa Mersin
1988: Akcimento Istanbul
1988: Yibitas Cimento
1989: Cimentas Izmir
1992: Bursa Cimento
1992: Akcimento Kayseri
1993: Adana
1993: Canakkale
1994: Mardin Cimento
1994: Nigde
1995: BATICIM Kula
1995: BATISÓKA

United States of America:

1988: Ideal Cement - Utah
1988: South Western Portland - Victorville
1989: Phoenix Cement - Arizona

Vietnam:

1993: Hoang Tach

F.L. Smidth Atox® mills

The Densit® wear protection products have been specified by F.L. Smidth as wear protection in their Atox® raw meal and coal mills. The Densit® products are installed as wear plates on the mill housing.

Brazil:

1989: Cia. de Cimento Itambé - Balsa Nova
1994: Cimento Tocantins S.A.
Tocantins, Distrito Federal
1994: Companhia Cimento Portland Itau
Passos, Minas

Canada:

1988: St. Mary Cement Co. - Bowmanville

P.R. of China:

1991: INSTESC - Lingwu
1991: China National Technical - Huaxin
1993: Int. Tendering Co. of CNTIC - Tongling
1994: Int. Tendering Co. of CNTIC
Changjiang - Hainan
1994: China National Technical
Hebel Dongyin Cement Co. Ltd.

Columbia:

1993: Cementos Rioclaro S.A. - Rioclaro
1994: Cementos Boyaca S.A. Boyaca

India:

1991: Hirmi
1992: Pipavav, Gujarat
1994: DLF Cement Ltd.
Rajasthan
1994: Prism Cement Ltd. - Maharashtra

Italy:

1988: Cementeria di Monselice S.p.A.
Monselice

Kenya:

1994: The East African Portland
Cement Company Ltd.
Athi River Plant

Norway:

1990: Norcem A/S - Kjøpsvik

Pakistan:

1990: State Cement Co. of Pakistan - Wah
1993: Fauji Cement Co. Ltd. - Fatehjang
1994: Kohinoor Textile Mills Ltd.
Maple Leaf
1994: Nishat Group
D.G. Khan Cement Co.
1994: Chakwal Cement Co. Ltd.
Punjab

Spain:

1989: Portland Valderrivas S.A. - El Alto
1991: Portland Iberia S.A.
Castillejo de Anover

Thailand:

1989: Siam City Cement Co. Ltd.
Tabfa 2
1990: Siam City Cement Co. Ltd.
Tabkwang
1994: Siam City Cement Co. Ltd.
Tabkwang

Vietnam:

1993: Vietnam Union Of Cement Plants
Hoang thach

| Plant | Year | Densit® installation | Densit® material | Medium |
|--|-------|---|--|--------------------|
| F.L. Smidth | | | | |
| Cementos Tolteca S.A. Atotonilco, Mexico | 1993: | Lining of cyklon pipes | WearFlex 2000 | Cement |
| Larsen & Toubro Ltd. Hirmi, India | 1993: | Lining for FLS Sepax® separator Lining for FLS Atox® mills | WearCast 1000 WearFlex 2000/ WearCast 1000 | Cement Raw meal |
| Kommunekemi A/S Nyborg, Denmark | 1993: | Pipes | WearCast 2000 | |
| Lucky Cement Corp. Taiwan | 1993: | Lining for FLS Sepax® separator | WearFlex 2000 | Raw meal |
| Cementerie de Ain Touta Algeriet | 1993: | Pipes and bends | WearCast 2000 | Cement |
| Zespos Electrowni Ostroleka Poland | 1993: | Pipes | WearCast 2000 | Coal dust |
| Adana Cimento Tyrkey | 1993: | Lining for FLS Sepax® separator | WearFlex 2000 | Blended |
| Isparta Tyrkey | 1994: | Automatically operated valves | WearCast 2000 | |
| Mitsubishi Cement Co. China | 1994: | Lining for FLS Sepax® separator | WearFlex 2000 | Cement |
| Hoang Thach II Cement Plant Vietnam | 1994: | Lining for FLS Atox® mills | WearFlex 2000 | Anthracite |
| Mardin Cimento Turkey | 1994: | Lining for cyclone pipes | WearFlex 2000 | Cement |
| Jordan Cement Jordan | 1995: | Lining for mill pipes | WearFlex 2000 | Cement |
| Siam City Thailand | 1995: | Lining for FLS Sepax® separator | WearFlex 2000 | Cement |

Christian Pfeiffer:

The system supplier Christian Pfeiffer, Beckum, Germany, is using Densit® wear resistant products in machines and machineparts they are supplying to the cement industry.

Germany:

| | | |
|-------|--------------------|---------------|
| 1994: | Distributor plate | WearFlex 2000 |
| 1994: | QDK 25 classifiers | WearFlex 2000 |
| 1994: | QDK 16 classifiers | WearFlex 2000 |
| 1994: | Distributor plate | WearFlex 3000 |
| 1994: | QDK 38 classifier | WearFlex 2000 |

Krupp-Polysius:

Krupp-Polysius has specified Densit® wear resistant products to a variety of their process equipment supplied to the cement industry - world wide.

Germany:

| | | | |
|-------|--------------------------------|--------------------|------------------|
| 1994: | Wülfrater Zement, Duisburg | Chute | WearFlex 2000 |
| 1992: | Alsen - Breitenburg, Lägerdorf | Separator outlet | WearFlex 2000 |
| 1995: | | Dedusting cyclones | WearFlex 1000 HT |
| 1995: | Karsdorfer Zement, Karsdorf | Classifier | WearFlex 3000 |
| 1995: | E. Schwenk, Bernburg | Bunker | WearFlex 2000 |
| | | Classifier | WearFlex 2000 |
| | | Chute | WearFlex 2000 |

Italy:

| | | | |
|----------|-------------------------------|-------------------|------------------|
| 1993/94: | Cementeria De Merone, Ternate | Dedusting cyclone | WearFlex 1000 HT |
|----------|-------------------------------|-------------------|------------------|

Thailand:

| | | | |
|-------|--------------------------|------------------|------------------|
| 1994: | TPI Polene Co., Saraburi | Flue gas cyclone | WearFlex 1000 HT |
| | | Cyclone | WearFlex 1000 |
| 1995: | | Cyclone | WearFlex 1000 HT |

Krupp Fördertechnik (O + K):

Germany:

| | | | |
|-------|-------------------------------------|----------|---------------|
| 1990: | Wülfrather Zement, Duisburg | Cyclone | WearFlex 1000 |
| 1991: | Rheinische Kalksteinswerk, Wülfrath | Cyclone | WearCast 1000 |
| 1992: | Rüdersdorfer Zement, Rüdersdorf | Cyclones | WearFlex 2000 |

Switzerland:

| | | | |
|-------|-------------------------|----------|---------------|
| 1991: | Bünder Zement, Untervaz | Cyclones | WearCast 1000 |
|-------|-------------------------|----------|---------------|



KHD Humboldt Wedag AG:

KHD specifies Densit® wear resistant products to various process parts used in the cement industry.

Austria:

| | | | |
|-------|------------------------------|---------------|---------------|
| 1993: | Zementwerk Eiberg, Kufstein | Coarse outlet | WearCast 2000 |
| | Perlmooser Zementwerke, Wien | Coarse outlet | WearCast 2000 |
| 1994: | Perlmooser Zementwerke, Wien | Coarse outlet | WearCast 2000 |

China:

| | | | |
|-------|---------------------------------|----------------------|---------------|
| 1994: | China National Technical Huaxin | Cyklone + classifier | WearCast 2000 |
|-------|---------------------------------|----------------------|---------------|

Germany:

| | | | |
|-------|---------------------------|-----------------|---------------|
| 1992: | Fortuna Dykerhoff, Geseke | Coarse outlet | WearCast 2000 |
| | Kalkwerk Peine | Coarse outlet | WearCast 2000 |
| | Harz Kalk, Schraplau | Coarse outlet | WearCast 2000 |
| 1993: | Rüdersdorfer Zement GmbH | Coarse outlet | WearCast 2000 |
| | Rüdersdorfer Zement GmbH | Distributor Box | WearCast 2000 |
| 1994: | Zementwerk Berlin | Coarse outlet | WearCast 2000 |

France:

| | | | |
|-------|-------------------------|---------------|---------------|
| 1992: | Group Originy, Altkirch | Coarse outlet | WearCast 2000 |
|-------|-------------------------|---------------|---------------|

Hungary:

| | | | |
|-------|---------------------------|---------------|---------------|
| 1994: | Beremend cement, Beremend | Coarse outlet | WearCast 2000 |
|-------|---------------------------|---------------|---------------|

Malaysia:

| | | | |
|-------|-------------|---------------|---------------|
| 1994: | Cima Perlis | Coarse outlet | WearCast 2000 |
|-------|-------------|---------------|---------------|

Phillippines:

| | | | |
|-------|-------------------------------|---------------|---------------|
| 1993: | Republic Zement, Corp. Manila | Coarse outlet | WearCast 2000 |
|-------|-------------------------------|---------------|---------------|

Saudi Arabia:

| | | | |
|-------|---------------------------------|---------------|---------------|
| 1994: | Saudi Cement Company, Dammam | Coarse outlet | WearCast 2000 |
| 1995: | Arabian Cement Co. Ltd., Jeddah | Coarse outlet | WearCast 2000 |

Turkey:

| | | | |
|-------|----------------|------------|---------------|
| 1994: | Yozgat Cimento | Classifier | WearCast 2000 |
|-------|----------------|------------|---------------|

United Arab Emirates:

| | | | |
|-------|----------------------------|---------------|---------------|
| 1993: | Fujairah Cement Industries | Coarse outlet | WearCast 2000 |
| 1995: | Ras al Khaimah Co. | Coarse outlet | WearCast 2000 |

