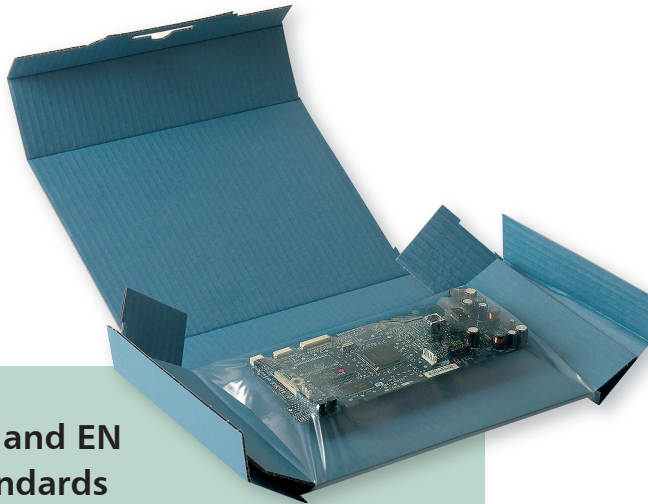


CORTRONIC®

...where there is a spark!

DANGER
High
Voltage



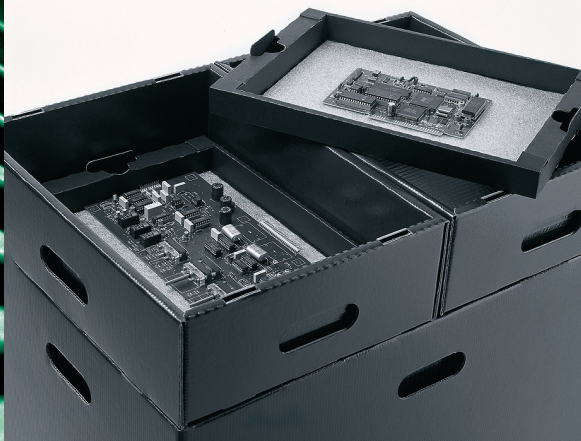


IEC and EN Standards

Standards play an important part in reducing uncertainties in the evaluation, selection and use of ESD protection programs and products.

Today in Europe, the operating standard is IEC/EN 61340-5-1:2001 Electrostatics Part 5-1 Protection of electronic devices from electrostatic phenomena - General Requirements and the accompanying IEC/EN 61340-5-2:1999 Electrostatics Part 5-2 Protection of electronic devices from electrostatic phenomena - User Guide.

CORTRONIC® meets or exceeds all IEC/EN 61340-5 requirements pertaining to packaging of ESDS.



Electrostatic Discharge ESD

To a greater or lesser extent all contact between objects, every separation of one item from another, each sliding of one thing on another, causes a disturbance of electrical charge. When charge disturbances take place faster than charge redistribution, static charge accumulates. ESD occurs where charges of different electrostatic potentials meet. The flow of electrons is usually sudden and releases energy that can damage electrostatic sensitive devices (ESDS).



*The Environment
CORTRONIC®
packaging
can withstand
repeated use
without loss of
electrical pro-
perties. In the
end, it can be
recycled in the
waste paper
stream.*

Electrostatic Protected Area

All containers and working appliances in the ESD protected area must be of diverting nature in order to make a controlled potential equalization respectively the grounding possible.

The Answer

To protect ESDS from the unwanted effects of ESD, two key measures must be taken and applied at all times:

- ESDS must be handled exclusively in an ESD Protected Area (EPA) where electrostatic potential differences are minimised.
- ESDS must be transported from one EPA to another only in shielding packages.

CORTRONIC® is ideally suited packaging for ESDS and because of its static dissipative skin and buried conductive core, it is an ESD shielding material suitable for use in ESD protected areas (EPA).

Anti-oxidation Protection:

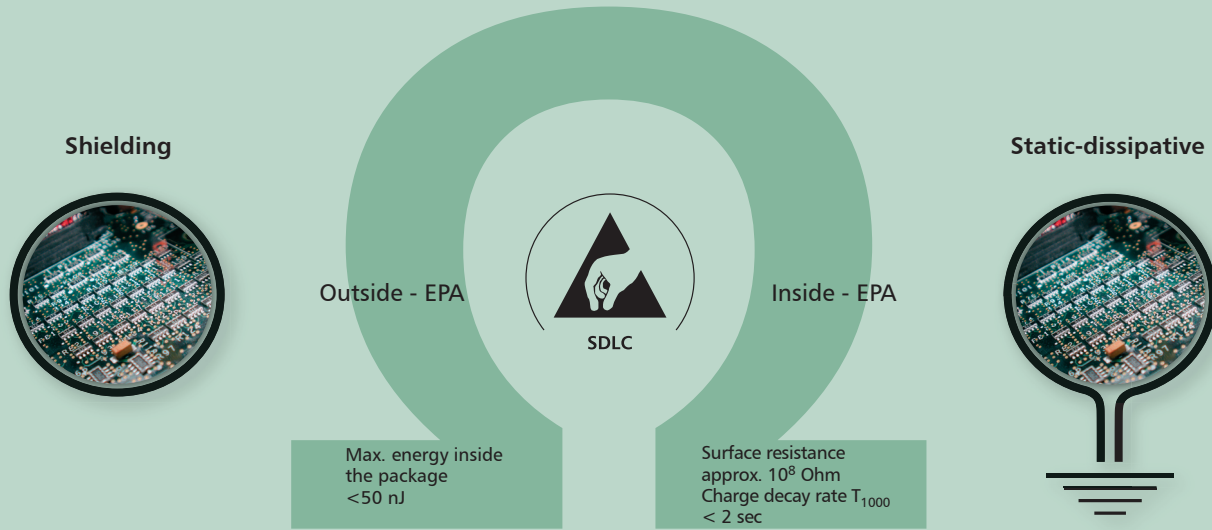


All ESD protective packagings can additionally be equipped with an active, temporary and volatile corrosion inhibitor (VCI).

**CORSTAT™ CORTRONIC® for safe use
inside and outside of the EPA**

**CORTRONIC® $\approx 10^{7-8}$ diverting layer Ohm
< 10^2 shielding layer Ohm**

**Permanent conductive –
no time limit**

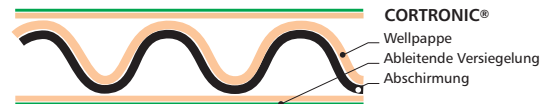


Technical data	
Electrical	
Surface resistance - core layer - outer layer	< 10^2 Ohm 10^{7-8}
Decay time	< 1 second
Tribocharging	none
Surface colour	blue
Energy bag test to EOS/ESD 11.31 and EN 61340-5-1	3.4 nJ
Chemical	
Corrosion	None
Galvanic potential	None
Heavy metal content	None
Amines	None
Mechanical	
Base material	100% Kraft liner
Puncture resistance	5.4 Joule on 1.36 B-wave
Resistance to abrasion	Good (surface is coated)
Printability	Good
Moisture resistance	Fair
Thickness	2 or 3 mm
Specifications	
Certified as Equivalent of Protected by	ISO 9001 EN / IEC 61340-5-1 Patent
No subject to RoHS-guidelines (2002/95/EG and 2002/96/EG)	
Weight example	
600 x 400 x 120 mm	0,58 kg

Applications

CORTRONIC® is a proven, versatile cardboard ESD shielding material developed especially for today's electronics industry.

Products made of **CORTRONIC®** include component boxes, PCB transit boxes, IC tube boxes, in-plant handlers for PCBs and custom applications.



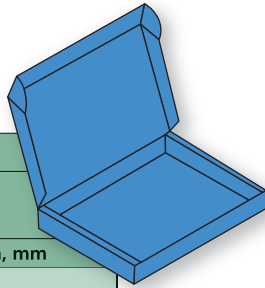
CONTAINERS FOR SHIPMENT

Standard color: blue

PCB transit boxes

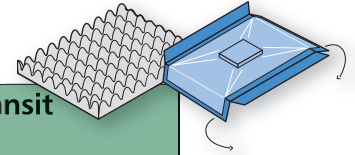
Erected boxes lined with conductive profiled soft foam in the lid and conductive pin-insertion foam in base

Ref	Inner dimension, mm		
01-TVS	40	40	15
02-TVS	62	62	25
Flat-packed boxes, empty			
Ref	Inner dimension, mm		
05-TVS	100	55	25
10-TVS	183	127	38
15-TVS	178	127	64
20-TVS	190	135	40
30-TVS	250	191	38
40-TVS	250	191	64
45-TVS	250	191	110
50-TVS	267	216	64
55-TVS	300	300	100
57-TVS	380	280	60
60-TVS	420	220	40
65-TVS	420	220	65



Inserts for empty PCB transit boxes

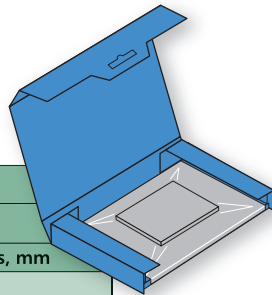
Ref	Ref
05-NS as	05-DFP
10-NS as	10-DFP
15-NS as	15-DFP
20-NS as	20-DFP
30-NS as	30-DFP
40-NS as	40-DFP
45-NS as	45-DFP
50-NS as	50-DFP
55-NS as	55-DFP
57-NS as	57-DFP
60-NS as	60-DFP
65-NS as	65-DFP



Korrvu Conductive

CORTRONIC® transit box incl. fixing foil

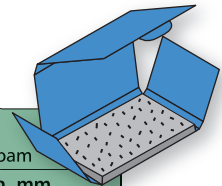
Ref	Inner dimensions, mm		
20-KC	125	107	25
30-KC	160	127	34
40-KC	235	175	45
50-KC	282	228	70



Component boxes

with printed warning, conductive pin-insertion foam

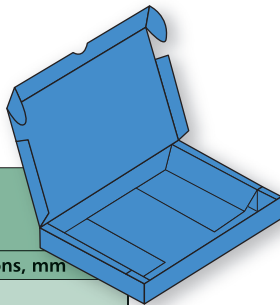
Ref	Inner dimension, mm		
05-TEP	95	30	15
10-TEP	100	60	15
20-TEP	120	100	15
30-TEP	155	70	25



Shipment boxes

with printed warning, for Euro 1 or Euro 2 PCB formats

Ref	Inner dimensions, mm		
10-TKVS	135	195	25
20-TKVS	135	195	65
30-TKVS	268	190	45

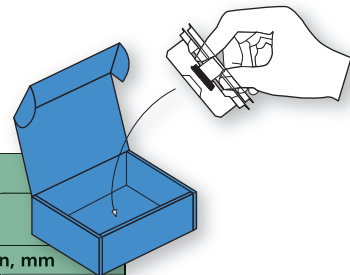


SM-Compak Shippers

Shipment box with printed warning and static dissipative plastic insert for QFP and BGA

Ref	Inner dimension, mm		
01-TSM	70	69	23
04-TSM	147	147	23

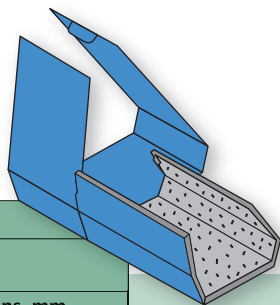
*04-TSM has four cavities



COR-Pack

Shipment box with printed warning, profiled 20 mm pink foam liner

Ref	Inner dimensions, mm		
05-TCP	150	115	40
10-TCP	200	140	50
20-TCP	280	140	100



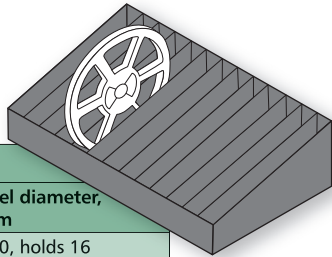
CONTAINERS FOR PRODUCTION AND STORAGE

Standard color: black

Outside of container is treated with water-/scratch-resistant coating.

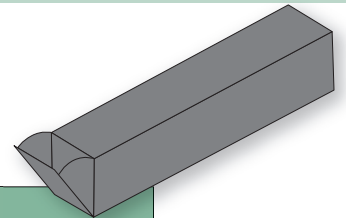
Open reel box

Ref	Inner dimensions, mm	Reel diameter, mm
10-CRB	380 180 100	180, holds 16
30-CRB	355 286 220	380, holds 5



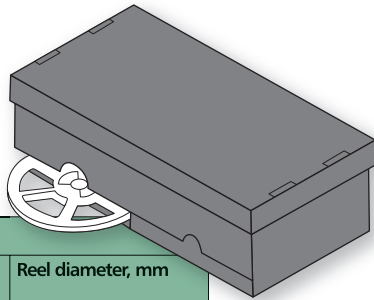
Closeable box for IC tubes

Ref	Inner dimensions, mm	Outer dimensions, mm
05-CTB	600 95 45	610 113 51
10-CTB	590 95 95	600 113 101



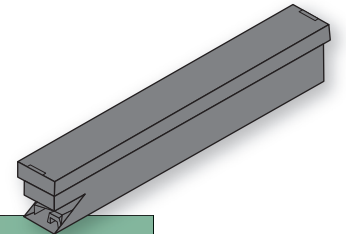
Reel storage box Fifo

Ref	Inner dimensions, mm	Reel diameter, mm
10-CRF	380 200 130	180, holds 10



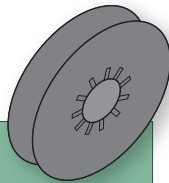
IC tube box Fifo

Ref	Inner dimensions, mm	Outer dimensions with lid, mm
10-CFI	600 50 100	623 75 106



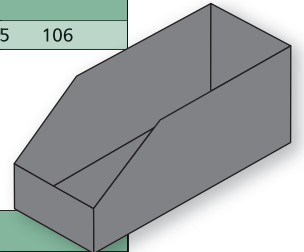
Reel

Sizes on request



Open storage box

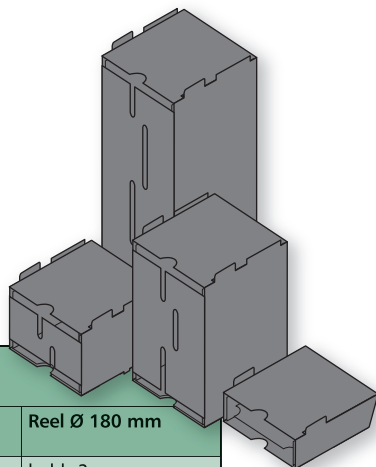
Ref	Inner dimensions, mm	Outer dimensions, mm
05-CLBO	180 62 65	202 70 70
10-CLBO	285 150 110	305 159 115
15-CLBO	292 109 122	313 116 127
20-CLBO	580 65 65	600 73 66
30-CLBO	592 109 122	611 117 127
40-CLBO	592 153 70	611 161 75
45-CLBO	590 200 180	609 209 185
50-CLBO	615 100 130	634 108 135



Reel Storage

180 Ø reels

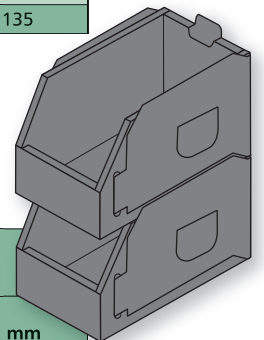
Ref	Inner dimensions, mm	Reel Ø 180 mm
10-CRS	185 180 52	holds 2
20-CRS	188 188 99	holds 8
30-CRS	188 188 206	holds 12
40-CRS	188 180 420	holds 24



Stackable open storage box

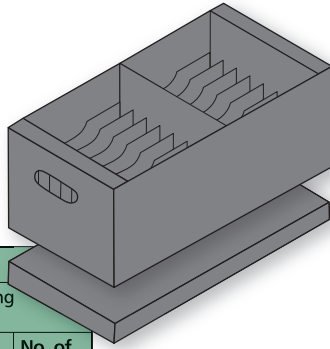
dissipative blue/black

Ref	Inner dimensions, mm	Outer dimensions, mm
10-CLBS	207 122 105	225 144 124



CONTAINERS FOR PRODUCTION, STORAGE AND SHIPMENT

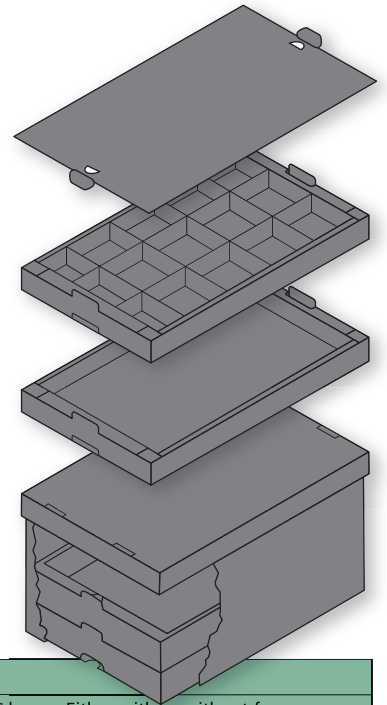
Standard color: black



In-plant handler, partitioned, with printed warning

It is possible to double the width of the compartments by removing longitudinal partitions. Partitions are static dissipative

Ref	Inner dimensions, mm			Cell dimensions, mm			No. of cells	No. of short dividers	No. of long dividers
	L	W	H	L	W	H			
10-TSC	270	169	195	130	24	195	12	1	5
				265	24	195	6		5
15-TSC	372	388	84	109	18	84	60	19	4
				165	18	84	40	19	3
20-TSC	386	386	176	110	30	175	30	4	9
				168	30	175	20	3	9
				340	30	175	10	2	9
				* 353	30	175	10	2	9
30-TSC	386	386	358	168	35	350	18	8	3
				340	35	350	9	8	2
40-TSC	424	272	281	178	18	280	22	3	10
				365	18	280	11	2	10
				* 117	22	280	30	16	3
				* 238	22	280	15	16	2
45-TSC	493	390	166	178	45	166	20	9	3
				360	45	166	10	9	2
48-TSC	562	355	150	123	24	150	44	5	10
				165	24	150	33	4	10
				250	24	150	22	3	10
				515	24	150	11	2	10
50-TSC	562	355	329	123	24	325	44	5	10
				165	24	325	33	4	10
				250	24	325	22	3	10
				515	24	325	11	2	10



Tray - stackable

Made to fit 48-TSC and 50-TSC boxes. Either with or without foam. Use code suffix: as = dissipative el = conductive

Ref	Inner dimensions, mm			Outer dimensions, mm		
05-CTR	297	230	28	351	246	31
06-CTR	297	230	55	351	246	60
07-CTR	305	243	40	358	259	43
20-CTR	499	330	28	550	346	31
25-CTR	499	330	40	550	346	43
30-CTR	499	330	70	550	346	73
40-CTR	499	330	100	550	346	103
Cover						
20-40-CTR D	599	343				

Horizontal dividers

for 48-TSC, 50-TSC, CSC and Multibox

Ref	Size, mm
05-DZW	357 246
10-DZW	550 350

Adhesive tape

Needed to erect 30, 40, 45 and 50-TSC boxes

Ref	Length, m	Width, m
10-KB	66	50

Loose-leaf binder

For A4 size paper

Ref	Inner dimensions, mm
10-CSH	315 235 8

Ringbinder

A4 size dissipative

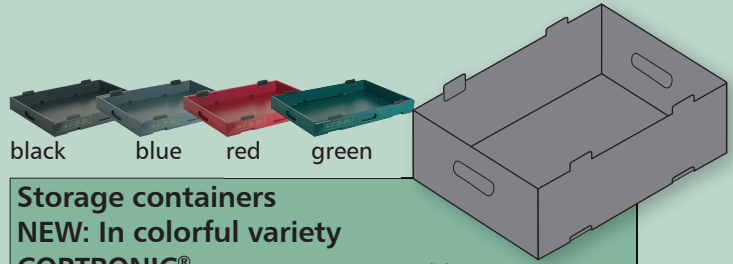
Ref	Inner dimensions, mm
10-ARO	315 235 35

Label holder

Clear, dissipative, self-adhesive

Ref	Size, mm
05-LT	140 100
10-LT	210 100

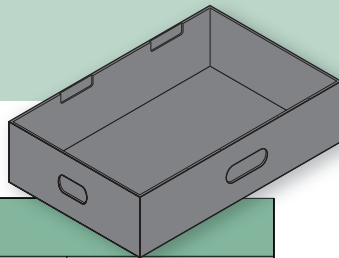
Outside of container is treated with water-/scratch-resistant coating



Storage containers
NEW: In colorful variety

CORTRONIC® can be used with or without lid

Ref	Inner dimensions, mm	Outer dimensions, mm
03-CSC	362 251 60	389 278 67
05-CSC	362 251 100	389 278 107
10-CSC	362 251 139	389 278 146
15-CSC	362 251 220	389 278 227
17-CSC	551 362 60	578 389 67
19-CSC	551 362 100	578 389 107
20-CSC	551 362 139	578 389 146
30-CSC	551 362 172	578 389 179
35-CSC	551 362 220	578 389 227
40-CSC	550 365 400	578 389 410

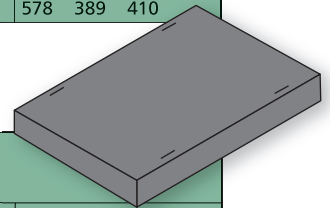


Multibox Can be fitted inside injection-moulded conductive container

Ref	Inner dimensions, mm	Outer dimensions, mm
05-MB	365 269 109	391 295 114
10-MB	565 365 109	591 391 114
20-MB	565 365 209	591 391 214
30-MB	565 365 309	591 391 319
40-MB	565 365 412	591 391 422

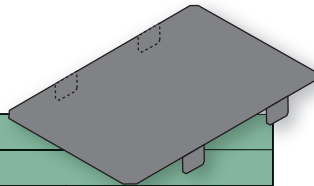
Storage container lid
CORTRONIC®

Ref	Inner dimensions, mm	Outer dimensions, mm
03-15-CSCD	392 281 30	399 299 35
17-40-CSCD	581 392 40	599 399 45



Multibox inside lid
CORTRONIC®

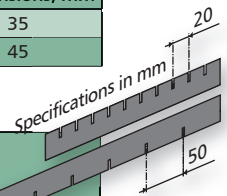
Ref	Inner dimensions, mm	Outer dimensions, mm
05-MBID	363 267	363 267
10-40-MBID	363 563	363 563



CSC partition inserts full cardboard dissipative for 03 - 15-CSC

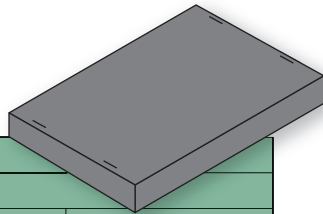
Ref	Cell dimensions, mm complete			No. of cells	No. of short part.	No. of part. portrait
	L	W	Heights			
60-CSCCK or L height of partitions is code no.	50	20	60-100-139-220	138	22	7
Number of slots						
Short partition	249	60-100-139-220		10		
Partition, portrait	360	60-100-139-220		6		

Partitions singly available, for this reason individually sized compartments possible



Multibox lid
CORTRONIC®

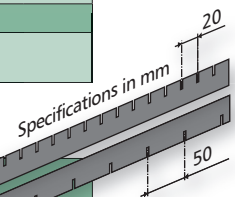
Ref	Inner dimensions, mm	Outer dimensions, mm
10-40-MBSD	593 393 50	603 397 53



CSC partition inserts full cardboard dissipative for 17 - 35-CSC

Ref	Cell dimensions, mm complete			No. of cells	No. of short part.	No. of part. portrait
	L	W	Heights			
60-CSCCK or L height of partitions is code no.	50	20	60-100-139-172-220	160	11	15
Number of slots						
Short partition	360	60-100-139-172-220		15		
Partition, portrait	549	60-100-139-172-220		11		

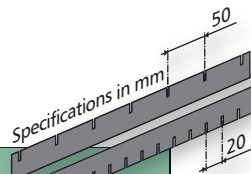
Partitions singly available, for this reason individually sized compartments possible. Available assembled or disassembled



Multibox partitions dissipative for 10 - 40-MB

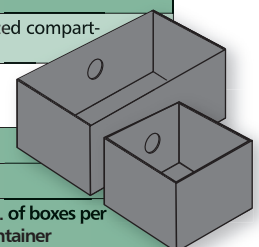
Ref	Cell dimensions, mm complete			No. of cells	No. of short part.	No. of part. portrait
	L	W	Heights			
50-MBK or L height of partitions is code no.	50	20	50-100-200	138	22	7
Number of slots						
Short partition	352	50-100-200		7		
Partition, portrait	552	50-100-200		22		

Partitions singly available, for this reason individually sized compartments possible



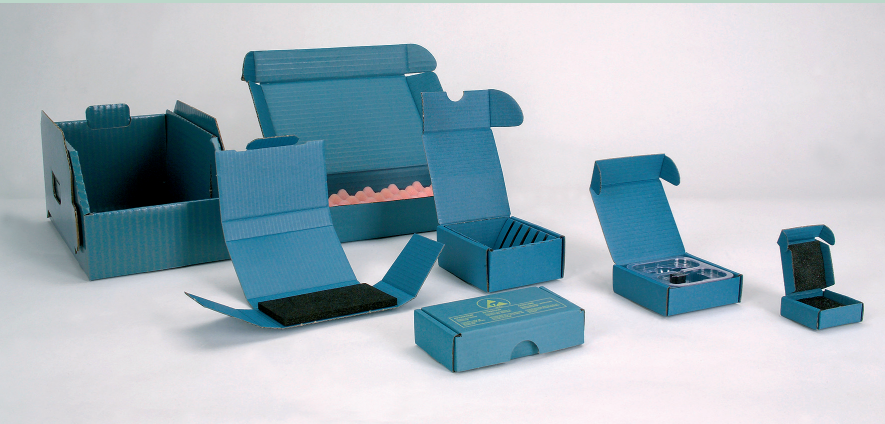
CSC inserts "Box in Box" CORSTAT™

Ref	Inner dimensions, mm	No. of boxes per container
17-CB1/8	162 119 56	8x
17-CB1/4	256 162 56	4x
19-CB1/8	163 128 95	8x
19-CB1/4	256 163 95	4x



Compartment inserts of dissipative full cardboard in many compartment sizes, matching in TVS, CTR, MB, CSC, without cost for tools possible (also in small quantities).

Standard sizes make for quicker supply



CORTRONIC® has a very wide selection of stock products, the choice is yours!

For shipping ESD sensitive parts:

- EPROM packaging
- Dispatch boxes with bubble foam or foil
- Constructive dispatch boxes
- Corpack with bubble foam

Custom-made items meet your special needs!

Some ESD sensitive assemblies have special packaging or handling requirements. CORTRONIC®'s versatility makes it possible for us to meet all your requirements, whether from stock or custom-made.

For production, in-plant handling and storage of ESDS:

- Stackable boxes
- Trays
- Reels, reel holders
- Storage boxes open and storage boxes stackable
- Partitioned boxes
- Multibox
- Fifo-Box

