

New times, new storage media, new standards

Why do I need to destroy data media?

Anyone who deals with confidential, personal or sensitive data has to ensure that the data is properly destroyed and disposed of in accordance with the German Federal Data Protection Act. This means that data media must be shredded to make it impossible or as difficult as possible to reproduce the content of the data.

Shredding according to the DIN standard

The storage media containing our confidential data and information are varied. Along with paper, the classic data medium, digital data media now also plays a major role. The DIN 66399 standard takes this diversity into account,

and defines what security means for all our modern media.

The DIN 66399 supersedes DIN 32757 and describes the requirements for machines and processes for shredding data media.

The standard was developed by the Standards Committee for Information Technology and Applications (NIA). Read all about the DIN 66399 on the following pages.

The 3 protection classes of the DIN 66399

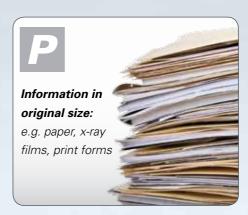
The protection requirement of your data is classified into three different classes. The type of data is checked to determine the protection requirement in the company. This identifies which need for protection is required, and therefore the protection class.

The protection classes

	Risks
Protection 1 Normal security requirement for internal data.	Unauthorised publication or dissemination would have a limited negative impact on the company. Protection of personal data must be ensured. There would otherwise be a risk to the position and financial situation of the affected persons.
Protection class 2 High security requirement for confidential data.	Unauthorised dissemination would have a considerable affect on the company and could infringe legal obligations or laws. The protection of personal data must fulfil strict requirements. There would otherwise be a considerable risk to the social standing and financial situation of the affected persons.
Protection class 3 Very high protection requirements for particularly confidential and secret data.	Unauthorised dissemination would have serious terminal consequences for the company and infringe trade confidentiality obligations, contracts or laws. It is essential that the confidentiality of personal data is maintained. Otherwise there is a risk to the health and safety or personal freedom of the affected persons.

The 6 data media of the DIN 66399

The standard divides all the different data media into 6 categories. Each category contains an explanation of the data formats.













The 7 security levels of the DIN 66399

The DIN 66399 standard divides each data media category into 7 security levels. The higher the security level, the smaller the particles.

	Security levels
Protection class 1	1
	2
	3
Protection class 2	3
	4
	5
Protection class 3	5
	6
	7

Security level 1: Security level 2: Security level 3:

Security level 4:

Security level 5:

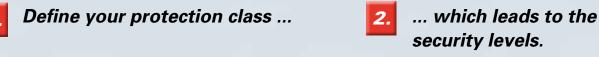
Security level 6:

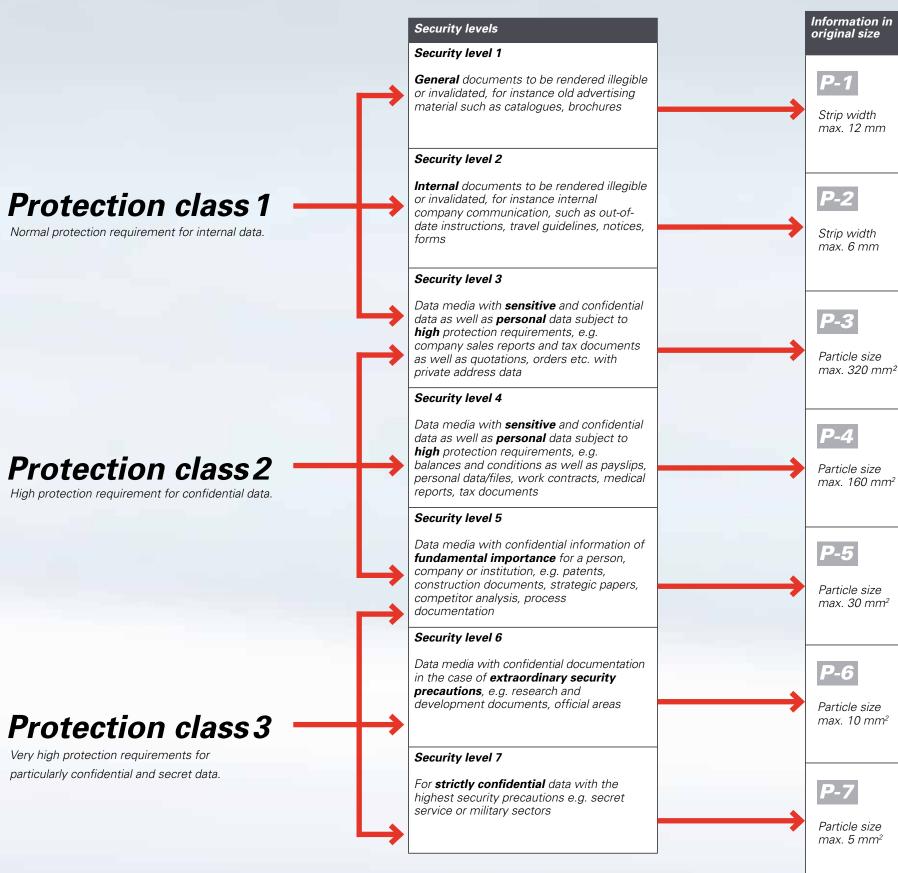
Security level 7:

General documents to be rendered illegible or invalidated.
Internal documents to be rendered illegible or invalidated.
Data media with sensitive and confidential data as well as personal data subject to high protection requirements.
Data media with highly sensitive and confidential data as well as personal data subject to high protection requirements.
Data media with confidential information of fundamental importance for a person, company or institution.
Data media with confidential documents in the case of extraordinary security precautions.

For **strictly confidential** data with the highest security precautions.

Finding the right document shredder step by step





Select the data media relevant for you.

Optical data media Magnetic data media

T-1

T-2

T-3

T-4

T-5

T-6

T-7

Particle size

max. 2.5 mm²

Particle size

max. 10 mm²

Particle size

max. 30 mm²

Particle size

max. 160 mm²

Particle size

max. 320 mm²

Particle size

max. 2000 mm²

Mechanically

inoperable



mation in



O-1

O-2

O-3

O-4

O-5

O-6

O-7

Particle size

max. 0.2 mm²

Particle size

max. 5 mm²

Particle size

max. 10 mm²

Particle size

max. 30 mm²

Particle size

max. 160 mm²

Particle size

max. 800 mm²

Particle size

max. 2000 mm²





Electronic data media

E-1

Mechanically/

electronically

inoperable

E-2

Split

E-3

E-4

E-5

E-6

E-7

Particle size

max. 0.5 mm²

Particle size

max. 10 mm²

Particle size

max. 1 mm²

Particle size

max. 30 mm²

Particle size

max. 160 mm²



Information in reduced form

F-1

F-2

F-3

F-4

F-5

F-6

F-7

Particle size

max. 0.2 mm²

Particle size

max. 0.5 mm²

Particle size

max. 1 mm²

Particle size

max. 2.5 mm²

Particle size

max. 10 mm²

Particle size

max. 30 mm²

Particle size max. 160 mm²



Hard drives with magnetic data media

Mechanically/

electronically

inoperable

H-2

H-3

H-4

Split and deformed

Split and deformed

Split and deformed

Split and deformed

several times. Particle size max. 5 mm²

several times. Particle size max. 10 mm²

several times.

Particle size max. 320 mm²

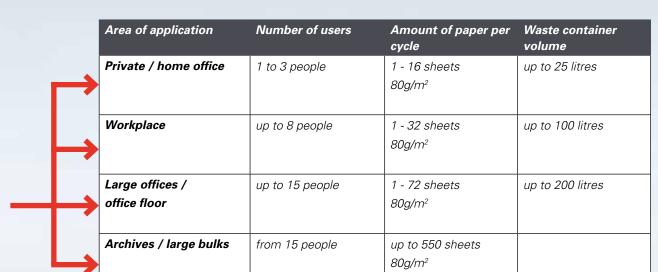
several times.

Particle size max. 2000 mm²

H-5

Deformed

Damaged



You have now defined the protection class for your documents and know

- · which security level you want to achieve and
- · which data media you have to shred.

The next questions are:

- · Where is the document shredder going to be used and how many people are going to use it?
- · What is the output of the document shredder, i.e. how many sheets of paper need to be shredded in one cycle?

Define the area of application, number of users and amount of paper.

How big should the waste container be?

	Area of application	Number of users	Amount of paper per cycle	Waste container volume
ightharpoonup	Private / home office	1 to 3 people	1 - 16 sheets 80g/m²	up to 25 litres
\rightarrow	Workplace	up to 8 people	1 - 32 sheets 80g/m²	up to 100 litres
\rightarrow	Large offices / office floor	up to 15 people	1 - 72 sheets 80g/m²	up to 200 litres
\vdash	Archives / large bulks	from 15 people	up to 550 sheets 80g/m²	

You have now specified all the data to be able to decide on the right document shredder for you.

On page 14 you can find the complete selection of HSM document shredders.



Keep it a secret

Some paper baskets contain documents which can quickly give away your profile or the results of your work to someone external.

If you don't want your credit card statements in their original size to end up in the paper bin - there is a solution: just shred them before anyone else reads them.

According to international Data Protection Guidelines, you must destroy any personal, confidential or secret data securely. On all accounts, this leads you to the document shredder.

Read all about the DIN 66399 on the following pages.





The data media in category P are paper or x-ray films. The document shredder ensures that these documents are shredded securely into strips or particles. Security levels P-1 and P-2 shred into strips. P-3 and above shred into particles.

Dr. White the dentist would like to shred some old patient files. They contain strictly confidential personal data. The patient files consist of written documents and x-ray films. Therefore the data media group P is required for Dr. Weiß. The security classes in question for protection class 3 are P-4 and P-5.

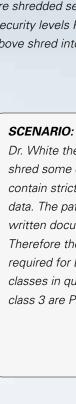


Security level for data media in category O

The optical media in category O are CDs, DVDs and Blu-ray discs. The document shredder ensures that these data media are shredded securely into strips or particles. The cutting rollers in the document shredder cut the CDs or DVDs into particles in the O-1 to O-7 security classes. The smaller the particle, the harder it is to reproduce the data.

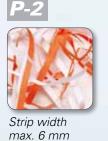
SCENARIO:

An advertising agency would like to shred some old drafts. The information is confidential and also contains all the addresses of mail shot recipients. The agency needs protection class 2. As the information is stored on paper and DVD, the P and O data media categories are required. The agency selects P-3 / O-3, P-4 / O-4 or P-5 / O-5 security levels from protection class 2. The smaller the particle, the higher the security for the agency.





max. 12 mm





max. 320 mm²

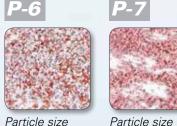


max. 160 mm²





max. 30 mm²



max. 10 mm²



max. 5 mm²



max. 2000 mm²



max. 800 mm²



max. 160 mm²



max. 30 mm²



max. 10 mm²





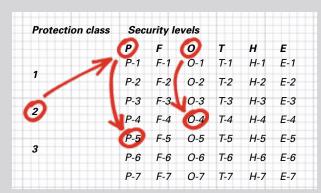
Particle size Particle size max. 5 mm² max. 0.2 mm²

Using the DIN standard in practice:

- 1. **Determine the protection class** for the data you want to shred.
- 2. **Select the security level.** The protection class issued then offers you a choice of 3 security levels. The higher the security level you select, the smaller and therefore more secure the particles are shredded.
- 3. Check what type of data media you need to deal with. Paper, CDs, magnetic storage, electronic storage, hard drives etc.
- 4. Now connect data media and security level. You can now use this information to select the appropriate document shredder (see table, page 11).

Shredding different types of data media securely

You have documents with protection class 2 which need to be shredded. You select security level 4, as this involves strictly confidential personal data. The information is on paper and DVDs. Therefore, this is data media in the P and O categories. You need a document shredder which can shred both media types. The right security level for paper is P-5, and for DVDs it is O-4. To find the right document shredder the combination P-5/O-4 needs to be found.





Security levels for data media in category T

The data media category T is for floppy disks, magnetic tapes or cards with magnetic strips. Security level T-1 is, for example, a bent disk. Here, protection from reproducing the data is extremely low. It is better to shred the data media into particles.

SCENARIO:

A department store sends out new store cards and shreds the old cards as a service for their customers. The cards contain personal customer information and therefore belong in protection class 2. For these magnetic cards, T-3, T-4 and T-5 security levels apply. The higher the security level, the smaller the particles



Security levels for data media in category E

Data media category E includes flash memory such as memory cards for cameras and smartphones, chip cards from banks and health insurance companies or USB sticks. You have already reached security level E-1 if the data media is deformed mechanically. However, shredding the memory on the USB stick or in the camera is far more secure.

EXAMPLE:

An R&D department has saved sensitive information on a plastic USB stick, which can no longer be read on the computer. Therefore, the data media with the sensitive data needs to be shredded securely. Protection class 2 and security classes E-3, E-4 and E-5 apply here due to the level of sensitivity. The company decides it is best to have the higher security level.







Mechanically inoperable





Particle size max. 2000 mm²



Particle size max. 320 mm²







Particle size max. 160 mm²





Particle size max. 30 mm²

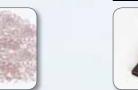


Particle size max. 10 mm²



Particle size max. 2.5 mm²









Mechanically / electronically inoperable









Particle size max. 160 mm²





Particle size max. 30 mm²



Particle size max. 10 mm²



max. 1 mm²

E-6



Particle size max. 0.5 mm²

Shredding magnetic data medium securely

Sensitive data can often be found on magnetic data media such as disks. Overwriting data with software solutions is viewed differently in specialist circles. It is still possible to reproduce data from media which is not physically damaged or only slightly (from bending).

Data from companies, authorities, doctors and lawyers is generally classified as "confidential personal data". Therefore, it is particularly important that the data is deleted securely.

Electronic data media

Here there is large selection of electronic data media, so-called flash memory, including solid state drives (SSD), data memory on USB sticks, bank cards, electronic identity cards, memory cards from mobile telephones, smartphones and digital cameras. They store their content in the form of electronic charges in storage cells and there is currently no safe and recognised way to delete them irretrievably.

Once the data is no longer needed or the device is resold or recycled, every user wants to be sure that the data cannot be restored. Shredding the data media in class E at a high security level makes reproduction only possible with the use of highly specialised equipment which is not usually commercially



Security levels for data media in category F

Data media in category F contain film and microfilm/microfiche. The data media are shredded in the document shredder according to the size of the cutting rollers and cannot be reconstructed.

SCENARIO:

A local government agency would like to shred some microfilms. As they contain personal data, it must be ensured that the information is shredded irretrievably. This type of application comes under protection class 2 – so the local government agency needs F-3, F-4 or F-5 security levels. The security level decision often depends on internal regulations. Generally, the following applies: the smaller the particle, the more secure.



Security levels for data media in category H

Data media in category H include hard drives with magnetic storage. Hard drives are often "destroyed" in a simple way using a hammer or an oven. However, the correct way to shred the complete hard drive into particles is to use a shredder. A hard drive shredder is required because of the strength and size of hard drives - especially if large quantities of hard drives have to be shredded.

SCENARIO:

An IT department is taking the computers out of service in the accounting section. Not all the data was saved on the network drives. Some personal data and bank account details are stored on the hard drives. This information comes under protection class 2 and 3 and needs to be shredded at security level H-5.









Particle size max. 30 mm²



Particle size max. 10 mm²





Particle size



max. 2.5 mm²





Particle size max. 1 mm²



Particle size max. 0.5 mm²



Particle size max. 0.2 mm²







inoperable





Mechanically/ electronically





Damaged





Split and deformed several times. Particle size max. 2000 mm²





Split and deformed several times. Particle size max. 320 mm²



deformed several times. Particle size max. 10 mm²



Split and deformed several times. Particle size max. 5 mm²



What is personal data?

The German Federal Data Protection Act governs the handling of personal data. The purpose of this law is to protect individuals so that their privacy is not impinged when their data is used. Data is personal if it describes personal or material circumstances of an identified or identifiable natural person.

For instance, this includes the name, personnel number, social insurance number, vehicle licence plate number, gender, address, income, family status, date of birth, nationality, illnesses, school grades, occupation, religion or beliefs, planning and forecast data

Destroying hard drives

The German Federal Office for Information Security recommends: "Whenever you want to dispose of your computer, you should make sure that all the data on the hard drive is destroyed. Simply putting it in the paper basket or deleting it in Windows Explorer is not sufficient."

Recommendation:

"To render your hard drive completely useless you should take it apart and **physically destroy it.** In most cases, selling a used hard drive is not worth it if you compare the monetary gain with the value of your data."

Source: https://www.bsi.bund.de

Select the right security level

The security level which the document shredder produces depends on its cutting units. They shred data media into a particular size – e.g. a particle size of 30 mm². This size is assigned a security level which varies according to the data media. The P-5 security level is for paper, the O-4 security level is for CDs. The HSM SECURIO P40 document shredder uses the P-5 / O-4 / T-5 / E-4 / F-2 security levels (in 1.9 x 15 mm cutting size) in this way.

When is this information important for you? One possible scenario: you are required to shred documents at protection class 2. The documents are in the form of paper and CDs. You know that you need to shred the CDs at security level O-4.



Every document shredder contains two cutting units which cut data media into strips or particles. The smaller the particle, the higher the security level. The aim is to shred the data so that it cannot be reproduced.

How do you proceed?

You choose a document shredder which can shred the CDs at O-4. Shredding the paper is done automatically at security level P-5 – therefore has more security. The DIN specifies that you should always select the higher security level.



Recommendations:

Separate cutting units

The DIN 66399 recommends that "If data media come under different security levels, it's advisable to separate them into different security levels for ecological and economical reasons."

This means it's better to choose a document shredder with two cutting units and separate infeed slots. This way, paper and CDs can be shredded at different security levels, the particles go into different waste containers and can then be disposed of separately.



The HSM SECURIO P40 is available as an option with a separate CD cutting unit.

The correct work process for shredding data media

The DIN 66399 defines three different processes for shredding data media and recommends direct shredding (version 1) over and above the other processes.

Version 1: Directly by the responsible department

- 1. Data accumulates in companies and offices which needs to be shredded.
- 2. This is shredded directly at the workplace.

Version 2: On site by a service provider

- 1. Data accumulates in companies and offices which needs to be shredded.
- 2. This is collected and stored.
- 3. It is then transported internally to the central place on site for data shredding.
- 4. And shredded by an internal service provider on site.

Version 3: By an external service provider

- 1. Data accumulates in companies and offices which needs to be shredded.
- 2. This is collected and stored.
- 3. It is then transported to an external central place for data shredding.
- 4. Here it is collected again and stored.
- 5. And shredded by an external service provider.



The security is higher if the distance to the document shredder is short.

This is why DIN 66399 recommends shredding data media directly at the workplace.

HSM product finder













Pro	Protection		Security	Data	Home office	Workplace	Large office	Archives / large bulks
cla	class		level	media	1 to 3 people	for up to 8 people	for up to 15 people	for more than 15 people
				P	shredstar: S5, S10			Powerline: FA 400
1				0		shredstar: X10, X15, X18, X6pro, X8pro		Powerline: FA 400
				T				Powerline: FA 400
			1	B				Powerline: FA 400
				F	SECURIO : C16, C18 Classic : 80, 90, 102	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225 shredstar: MultiShred, X5, X10, X15, X18, X6pro, X8pro	SECURIO: P36, P40, P44 Classic: 386, 390	Powerline: FA 400, 450 FA 500
				P	SECURIO: C16, C18, Classic: 70, 80, 90.102	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO: P36, P40, P44 Classic: 386, 390, 411	Powerline: FA 400, FA 500
		2		0	SECURIO: C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO: P36, P40, P44 Classic: 386, 390, 411, 412	Powerline: FA 400, FA 500
			2	T	SECURIO: C16, C18 Classic: 90, 102	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225 shredstar: X6pro, X8pro, X10, X15, X18	SECURIO: P36, P40, P44 Classic: 386, 390, 411	Powerline: FA 400, FA 500 HDS 230
			_	E	SECURIO: C16, C18 Classic: 90, 102	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225 shredstar: X6pro, X8pro, X10, X15, X18	SECURIO: P36, P40, P44 Classic: 386, 390, 411, 412	Powerline: FA 400, FA 500 HDS 230
				F	SECURIO: C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO: P36, P40, P44 Classic: 386, 390, 411	Powerline: 450, FA 500
				P	Classic: 102	Classic: 104, 105, 125, 225	Classic: 411, 412	Powerline: FA 400, FA 500
				0		SECURIO: B24, B32, B34 Classic: 225 shredstar: MultiShred	SECURIO: P36, P40, P44 Classic: 390	Powerline: HDS 230, FA 400, 450 FA 500
			3	T			Classic: 411, 412	Powerline: FA 400, FA 500 HDS 230
			3	B	SECURIO: C16, C18	SECURIO : B22, B24, B32, B34 Classic : 104, 105, 108, 125, 225 shredstar : MultiShred	SECURIO: P36, P40, P44 Classic: 386, 390	Powerline: FA 400, 450 FA 500
				F		SECURIO: B24, B32, B34 Classic: 105, 125, 225	SECURIO: P36, P40, P44 Classic: 390, 411	
				P	SECURIO : C16, C18 Classic : 80, 90, 102	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225 shredstar: MultiShred, X5, X10, X15, X18, X6pro, X8pro	SECURIO : <i>P36</i> , <i>P40</i> , <i>P44</i> Classic : <i>386</i> , <i>390</i>	Powerline: FA 400, 450 FA 500
				0			SECURIO: P40, P44, Classic: 411	Powerline: 450, FA 500
	2		4	T	SECURIO: C16, C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225 shredstar: MultiShred	SECURIO: P36, P40, P44 Classic: 386, 390	Powerline: FA 400, 450 FA 500
				E	SECURIO: C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO : P36, P40, P44 Classic : 386, 390, 411	Powerline: 450, FA 500
				F		Classic: nanoshred 726	Classic: nanoshred 726	
				Н				Powerline: HDS 230
		3	5	P	SECURIO: C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO: P36, P40, P44 Classic: 386, 390, 411	Powerline: 450, FA 500
				0			Classic: 411	
				T	SECURIO: C18	SECURIO: B22, B24, B32, B34 Classic: 104, 105, 108, 125, 225	SECURIO: P36, P40, P44 Classic: 386, 390, 411	Powerline: 450, FA 500
				B			SECURIO: P36, P40, P44 Classic: 411	
				H				Powerline: HDS 230
			6	P		SECURIO: B24, B32, B34 Classic: 105, 125, 225	SECURIO: P36, P40, P44 Classic: 390, 411	
				T			SECURIO : P36, P40, P44 Classic : 411	
				0			SECURIO : P36, P40, P44	
			7	P		SECURIO: B24, B32, B34 Classic: 125, 225	SECURIO: P36, P40, P44 Classic: 390, 411	
14	1							

Here you can see:

tax declarations from 2002,

2 confidential letters from the

accountant, I old hard drive,

3 USB sticks, I DVD with a

presentation for the new hybrid

engine, 2 old health insurance cards

and an expired credit card.



Enquire now! We are always glad to help.

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Would you like more information on data protection?

- · For more information on the DIN 66399, go to www.hsm.eu/din-en
- Our data protection consultants would be glad to offer you personal advice on our free advisory hotline: 00800 44 77 77 66 (GER, AT, BE, NE, LUX, DK) or use the contact form at http://en.hsm.eu/contact_en
- · Or send an email to DIN@hsm.eu

