

THE SONDESCAN STANDARD

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The SondeScan Standard is the in-house condition-coding system of the SondeScan software: defect codes for pipe runs, manholes and leak tests, each with a plain-language definition and a default grade on the SondeScan scale SST 1 to 5. It is written for operators who do not have to deliver strictly norm-conformant coding. This page is the complete, versioned publication; it matches exactly what the software applies.

SondeScan Standard, a house-own systematic. For norm-conformant delivery under EN 13508-2 / DWA-M 149-3 / VSA-KEK select the respective official standard. Not a certification, not an official norm.

For norm-conformant delivery, SondeScan also codes to EN 13508-2. EN 13508-2 is a European standard published by CEN and available for purchase from the national standards bodies (for example DIN, BSI, SNV); it is not free to read and it is not reproduced here. The SondeScan Standard is not derived from it and maps to no licensed code set.

THE SONDESCAN GRADES (SST)

SST runs ASCENDING in severity: SST 1 is the best condition, SST 5 the worst and means act immediately. Info codes carry no grade and never affect the object condition.

GRADE	NAME	RECOMMENDED ACTION
SST 1	In order	No defect visible. The next routine inspection is sufficient.
SST 2	Observe	Minor defect without operational consequence. Check specifically at the next inspection.
SST 3	Plan	Clear defect, function still given. Add to the measure planning.

GRADE	NAME	RECOMMENDED ACTION
SST 4	Act short-term	Function impaired or substance at risk. Take the measure within the season.
SST 5	Act immediately	Acute danger for operation, environment or traffic safety. Secure and repair without delay.

CODE FORMAT

Every code reads PREFIX-xNN: SSK for the pipe run, SSS for the manhole, SSD for the leak test. x is a mnemonic group letter, NN a two-digit running number. SSK groups follow the operator's question, SSS groups the manhole component, SSD groups the test sequence.

SSK - PIPE RUN

SSK-S · SUBSTANCE (PIPE FABRIC)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	CL
SSK-S01	Hairline crack, fine and superficial	Very fine crack without visible opening. The pipe wall shows a surface crack but still carries fully.	SST 2	mm	yes
SSK-S02	Crack along the pipe	Crack running in the pipe direction. Points to load from above or a bedding problem.	SST 3	mm	yes
SSK-S03	Crack across the pipe	Crack running around the circumference. Points to settlement, shear forces or a point load.	SST 3	mm	yes
SSK-S04	Multiple crossing or mesh cracks	Several cracks in different directions up to a mesh pattern. The wall is weakened over a larger area.	SST 3		yes
SSK-S05	Fragments: wall pieces broken, still in place	The pipe wall is broken into pieces which still sit in position. Precursor of a break.	SST 4		yes
SSK-S06	Break: wall pieces missing or displaced	Parts of the pipe wall are missing or displaced. Soil can enter, the load capacity is at risk.	SST 4		yes

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-S07	Collapse: cross-section partly or fully destroyed	The pipe has collapsed, the cross-section is partly or fully blocked. Immediate action required.	SST 5	%	
SSK-S08	Hole or missing spot in the wall	Wall material is missing locally. Open connection to the surrounding soil.	SST 4	mm	yes
SSK-S09	Surface worn off (corrosion or wear)	The inner surface is worn off by abrasion or chemical attack. Aggregate or reinforcement may be visible.	SST 3		yes
SSK-S10	Spalling or local surface damage	Locally spalled or damaged surface without weakening the wall throughout.	SST 2		yes
SSK-S11	Inner lining (liner) defective	An installed lining is wrinkled, detached, open or damaged.	SST 3		yes
SSK-S12	Soil or void visible	Soil or a void behind the wall is visible through an opening. Danger of surface collapse.	SST 5		yes

SSK-F • FLOW (DRAINAGE CAPACITY IMPAIRED)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-F01	Deposits on the invert (sand, gravel, sludge)	Loose deposits in the invert reduce the free cross-section.	SST 2	%	
SSK-F02	Attached deposits on the wall (grease, films)	Adhering layers such as grease or dirt films on wall or crown.	SST 2	%	yes
SSK-F03	Hard crust (scaling, incrustation)	Hardened deposits that a normal flush does not remove.	SST 3	%	yes
SSK-F04	Roots, single ingrown	Single roots have entered through joints or connections.	SST 3	%	yes
SSK-F05	Root ball or massive ingrowth	Dense root ingrowth clearly narrowing the cross-section.	SST 4	%	yes
SSK-F06	Obstacle or foreign object in the cross-	An object lies or protrudes into the cross-section (rubble, stones, tools,	SST 3	%	yes

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	CLOSE
	section	protruding parts).			
SSK-F07	Blockage, partial	The flow is clearly impaired, part of the cross-section is closed.	SST 4	%	
SSK-F08	Blockage, complete	No flow possible any more. Backwater is imminent or already present.	SST 5		
SSK-F09	High water level, backwater visible	Unusually high or standing water points to a flow obstacle or a back-fall.	SST 3	%	
SSK-F10	Vermin sighted	Rats or other vermin were sighted during the survey.	SST 2		
SSK-F11	Biological film or ochre deposits	Biological growth or iron-rich deposits (ochre) on the wall.	SST 2		yes

SSK-V · JOINTS AND CONNECTIONS

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	CLOSE
SSK-V01	Joint displaced lengthwise	Two pipes are pulled apart lengthwise at the joint.	SST 2	mm	
SSK-V02	Joint offset radially (edge offset)	The pipes are offset sideways or in height against each other at the joint.	SST 3	mm	yes
SSK-V03	Seal visible or torn out	The sealing element of a joint protrudes visibly into the pipe or is missing.	SST 3		yes
SSK-V04	Connection protrudes into the cross-section	A connected pipe protrudes into the main cross-section, impairing flow and cleaning.	SST 2	%	yes
SSK-V05	Connection damaged or leaking	The connection joint is broken, open or leaking.	SST 3		yes
SSK-V06	Connection abandoned, not properly sealed	A connection no longer in use is open instead of properly sealed.	SST 3		yes
SSK-V07	Connection proper (inventory note)	A connection exists and is properly integrated. Pure inventory note.	SST 1		yes

SSK-W · WATER (INGRESS AND EGRESS)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-W01	Wall damp (ingress without visible run)	Damp spot or sweating wall. Water enters but does not visibly run.	SST 2		yes
SSK-W02	Water visibly running in	Extraneous water visibly runs into the pipe, for example through a joint or a crack.	SST 3		yes
SSK-W03	Water entering spraying or under pressure	Water enters under pressure. Points to high groundwater and a larger leak.	SST 4		yes
SSK-W04	Suspected water egress (exfiltration)	Signs that wastewater leaves the pipe into the soil (for example wash-outs).	SST 3		yes

SSK-G · GEOMETRY (POSITION AND SHAPE)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-G01	Pipe deformed (cross-section changed)	The cross-section is deformed against the target shape. State the deformation in percent.	SST 3	%	
SSK-G02	Sag holding standing water	The pipe sags locally, water remains standing.	SST 2	m	
SSK-G03	Back-fall	The pipe falls against the flow direction over a stretch.	SST 2	m	
SSK-G04	Direction deviation, unplanned bend	The pipe visibly deviates from the planned axis.	SST 2		

SSK-I · INFO (SURVEY AND ORIENTATION POINTS)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-I01	Start of survey	Start of the survey at the start point. Not a defect, orientation only.	Info		
SSK-I02	End of survey	End of the survey at the end station. Not a defect, orientation only.	Info		

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSK-I03	Info point (general remark)	General observation without defect character, for example material change or photo.	Info		
SSK-I04	Survey aborted (state reason)	The survey was aborted before the target. State the reason in the remark.	Info		
SSK-I05	Camera under water or view obstructed	The view was temporarily or permanently obstructed. Statements in this range are limited.	Info		
SSK-I06	Cleaning performed	The section was cleaned. Reference to the cleaning report.	Info		

SSS - MANHOLE

SSS-D · COVER AND FRAME

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-D01	Cover damaged or broken	The manhole cover is cracked, broken or incomplete.	SST 4		
SSS-D02	Cover missing	The cover is missing entirely. Acute danger for people and traffic.	SST 5		
SSS-D03	Frame loose or cover rattling	Frame or cover do not sit firmly. Noise and progressing damage are imminent.	SST 3		
SSS-D04	Cover not level (trip edge)	The cover sits higher or lower than the surrounding surface.	SST 3	mm	

SSS-H · NECK AND CONE

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-H01	Neck or cone cracked or damaged	The upper transition part of the manhole is cracked or damaged.	SST 3		yes

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-H02	Adjustment rings loose or shifted	Adjustment rings under the frame are loose, shifted or broken.	SST 3		

SSS-W · WALL AND RINGS

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-W01	Manhole ring cracked or broken	A wall ring of the chamber is cracked or broken.	SST 3	mm	yes
SSS-W02	Joints open or rings off set	Joints between rings are open or the rings are offset against each other.	SST 2	mm	yes
SSS-W03	Wall surface worn (corrosion)	The wall surface is worn by chemical attack or abrasion.	SST 3		yes
SSS-W04	Water entering through wall or joint	Extraneous water visibly enters through the manhole wall or a joint.	SST 3		yes
SSS-W05	Mortar missing or masonry open	In masonry manholes joint mortar is missing or bricks lie exposed.	SST 3		yes

SSS-B · BENCHING AND CHANNEL

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-B01	Benching damaged	The walkable benching next to the channel is damaged or broken out.	SST 2		
SSS-B02	Channel damaged or broken out	The open flow channel in the manhole base is damaged.	SST 3		
SSS-B03	Flow obstructed or backwater in the manhole	Water backs up in the manhole or drains visibly impaired.	SST 3		

SSS-S · INVERT

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-S01	Invert scoured or holed	The manhole invert is scoured or holed. Undermining is imminent.	SST 4		

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-S02	Deposits in the manhole	Sand, sludge or debris lie in the manhole.	SST 2	%	

SSS-Z · ACCESS (STEP IRONS)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-Z01	Step iron loose or corroded	A step iron is loose or heavily corroded. Fall hazard when entering.	SST 4		
SSS-Z02	Step iron missing	One or more step irons are missing.	SST 3		

SSS-A · CONNECTIONS (INLET AND OUTLET)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-A01	Inlet or outlet damaged	The connection of an inlet or the outlet is broken, open or leaking.	SST 3		yes
SSS-A02	Connection protrudes into the manhole	A connected pipe protrudes disturbingly into the chamber.	SST 2		yes
SSS-A03	Roots in the manhole	Roots have grown into the manhole through joints or connections.	SST 3		yes

SSS-I · INFO (SURVEY POINTS)

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSS-I01	Start of manhole survey	Start of the manhole survey at the cover. Not a defect, orientation only.	Info		
SSS-I02	End of manhole survey	End of the manhole survey at the invert. Not a defect, orientation only.	Info		
SSS-I03	Manhole info point (general remark)	General observation without defect character during the manhole survey.	Info		

SSD - LEAK TEST

SSD-V · PREPARATION AND PLUGGING

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSD-V01	Test section prepared and plugged	The section is cleaned, plugged and ready for testing.	Info		
SSD-V02	Plug does not hold	A plug or bladder does not hold the test pressure. Testing not possible this way.	SST 3		

SSD-E · RESULT

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSD-E01	Test passed (pressure held within limit)	The section holds the test pressure within the permissible drop. Document the result with readings.	SST 1	mbar	
SSD-E02	Test failed (pressure drop above limit)	The pressure drop exceeds the permissible value. The section is not tight.	SST 4	mbar	
SSD-E03	Borderline, retest recommended	The result is close to the limit. Retest under controlled conditions recommended.	SST 2	mbar	

SSD-U · LEAK LOCATION

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASURE	LO
SSD-U01	Leak located at a pipe joint	The leak was attributed to a pipe joint. State the location with the station.	SST 3	m	yes
SSD-U02	Leak located at a connection	The leak was attributed to a connection.	SST 3	m	yes
SSD-U03	Leak located at the structure (manhole)	The leak lies at the manhole or structure itself.	SST 4		

SSD-X · ABORT AND DISTURBANCE

CODE	DESIGNATION	DEFINITION	DEFAULT	MEASUREMENT
SSD-X01	Test aborted (technical disturbance)	The test was aborted due to equipment or measurement problems. No result.	Info	
SSD-X02	Test aborted (extraneous water or inflow)	Inflowing water prevented a meaningful test. No result.	Info	

HOW TO CITE

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Previous versions, kept for citation: 1.0.1 (2026-08-27): [PDF English](#) · [PDF German](#) · 1.0 (2026-08-21): [PDF English](#) · [PDF German](#)

VERSION HISTORY

- 1.0.2 (2026-09-02): English wording of the publication corrected (in-house instead of house-own, mnemonic group letter instead of speaking group letter, the operator's question). Wording only: no code, definition, grade or unit changed. Identical to catalogue version 1.0.1 applied in the SondeScan software.
- 1.0.1 (2026-08-27): German catalogue texts corrected to proper umlauts (ä, ö, ü) in 85 fields. Orthography only: no code, definition, grade or unit changed. Identical to catalogue version 1.0.1 applied in the SondeScan software.

- 1.0 (2026-08-21): first public release. Identical to catalogue version 1.0 applied in the SondeScan software.