



NON-DESTRUCTIVE TESTING (NDT)

QUICK AND EFFICIENT INSIGHT INTO A STRUCTURE AND THE QUALITY OF A CONSTRUCTION

When you need to generate missing data from a (concrete) structure or to perform a damage assessment, Non-Destructive Testing (NDT) can offer the solution. This advanced research method, for which SGS uses a wide range of measurement techniques, makes it possible to “look” into structures. For example, it’s possible to detect the concrete cover, the position of (prestressed) reinforcement, or pipes, and the presence of corroded reinforcement, cracks or cavities. NDT gives you quick and efficient insight into a structure and the quality of construction, without noticeably damaging them.

ASSESS EXISTING STRUCTURES

Are you planning to modify an existing concrete structure, because it will get a new function and/or larger mechanical load? Then it’s important to know if sufficient reinforcement is present in the right places, what the thickness and strength of the concrete is and where pipes are situated. If this information is insufficient or not available, because for example construction plans are lacking, SGS is able to collect the missing data with NDT. We can also determine the life expectancy of the construction, partly based on NDT results.

INSIGHT INTO CONDITION AND DAMAGE

NDT techniques are also suitable for providing insight into the condition of a construction or identifying the presence and nature of damage. Is there, for example, corrosion of the reinforcement, delamination, cracks or cavities? We can give you an overview of the maintenance condition, the extent of damage and any safety or durability risks using radar, ultrasonic and electrochemical techniques, amongst others. You will also receive expert advice on possible repairs or life-extending measures.

TESTING THE CONFORMITY OF (NEW) BUILDINGS

Finally, NDT can give you certainty regarding conformity. Does a construction meet the requirements, for example, in terms of load-bearing capacity or fire resistance? Has it been built in conformity with the design and drawings? With NDT we can provide you with a reliable picture of the concrete cover and reinforcement configuration: the location of (prestressed) reinforcement, the amount of reinforcement, its diameter and the concrete cover on the reinforcement. With this knowledge you can reduce risks to a minimum.

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THE ADVANTAGES OF NDT

- In a relatively short time, large areas can be assessed. You will receive a lot of information quickly
- An image of the construction will be captured, possibly in 3D
- The necessity for destructive testing, like core drilling and clearing reinforcement, is limited and can be carried out on targeted spots
- NDT is cheaper in the end and much less invasive than destructive testing

NDT EXPERTS WITH WIDE MATERIAL KNOWLEDGE

SGS is an authority in the field of NDT, with many years' experience in research and extensive specialist knowledge in the field of building materials. We make use of different NDT techniques, which we combine where necessary to answer your question as precisely as possible. You can count on reliable measurement results, but also on our expert interpretation. We conduct NDT research on:



CONCRETE CONSTRUCTIONS



STEEL CONSTRUCTIONS



MASONRY



COATINGS (ON CONCRETE OR STEEL)



ROAD FOUNDATIONS



TECHNIQUES

TARGET	PARAMETER	COVER METER	RADAR	ULTRASONIC PULSE SPEED	ULTRASONIC PULSE ECHO	HALF CELL POTENTIAL	REBOUND NUMBER
Determining fire resistance	Concrete coverage	•					
Determine load-bearing capacity	Concrete thickness		•		•		
	Reinforcement configuration	•	•				
	Pre-tension		•				
	Concrete strength			•			•
Construction adjustment	Position of (prestress) reinforcement	•	•				
Determine service life	Concrete cover	•					
Determine residual life (condition)	Concrete cover	•	•				
	Corrosion reinforcement					•	
Damage assessment	Cracks			•	•		
	Crack depth			•			
	Cavities, honeycombing		•	•	•		
	Corrosion reinforcement					•	
	Concrete cover	•					

WHY SGS?

SGS is the world's leading inspection, verification, testing and certification company. Our local expertise in (building) materials, (building) processes and damage assessment of structures is supported by an international knowledge network of more than 2,600 offices and laboratories. We combine advisory and analysis services under one roof. This allows us to help you with all your construction-related questions.

WHAT WE CAN DO FOR YOU?

Do you have a question or would you like more information? Please contact us. We are happy to collaborate and work together.

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WHEN YOU NEED TO BE SURE

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