Construction

Check and Evaluation of Substrates

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Measuring instruments for substrate humidity

Measuring of the substrate moisture:
Moisture content < 4% by weight
e.g. Sika Tramex moisture meter

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Measuring instruments for substrate humidity

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Measuring instruments for substrate humidity

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Temperature and Moisture

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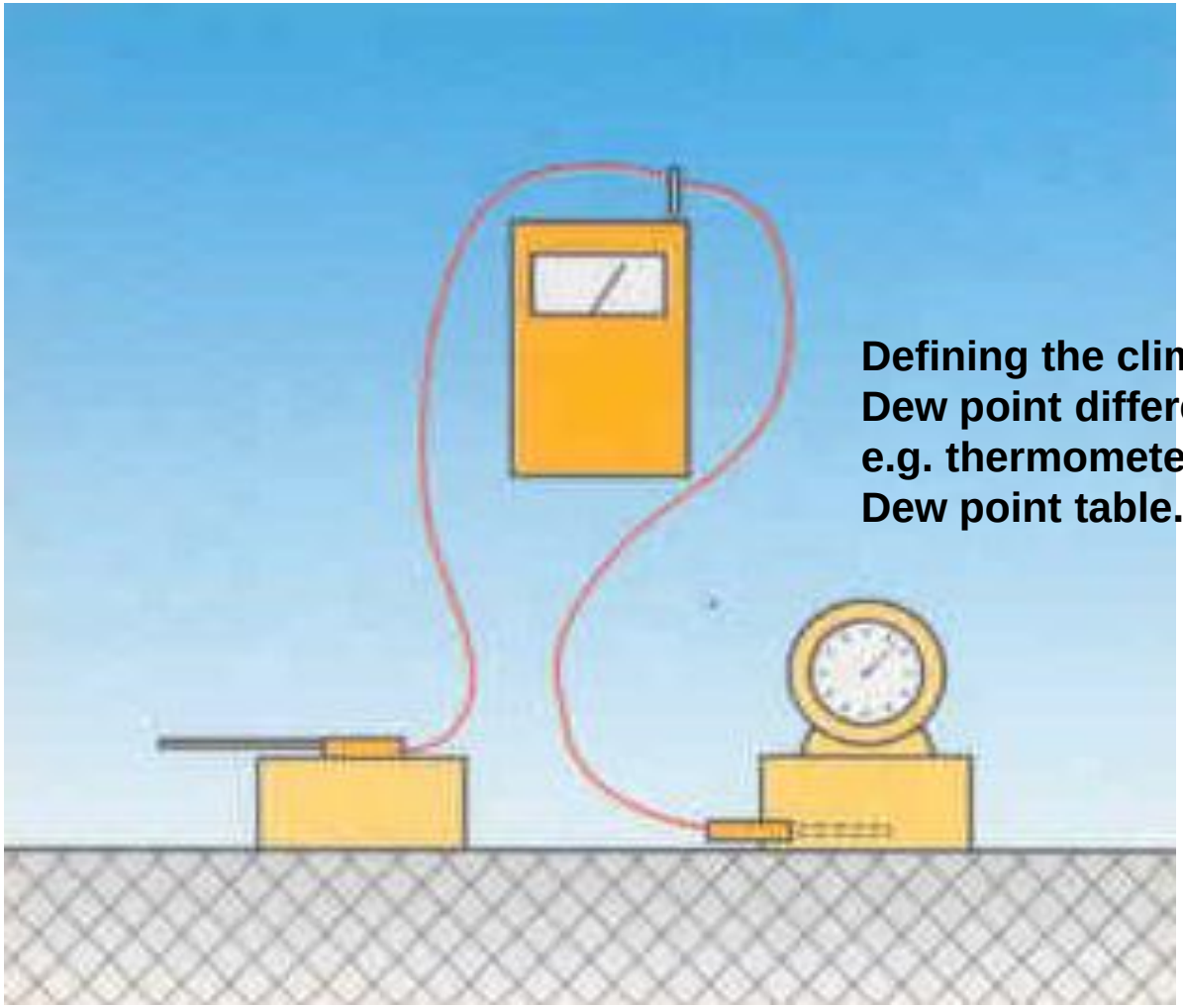
Measuring instruments for temperatures and air humidity



Defining the climatic conditions:
Dew point difference > 3°C
e.g. thermometer, hygrometer,
Dew point table.

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Dew point table

Table for the determination of the dew point

Air tempereture	Dew point temperatures in °C at a relative air moisture of					
+ °C	40 %	50 %	60 %	70 %	80 %	90 %
20	6,0	9,3	12,0	14,4	16,4	18,3
19	5,1	8,3	11,1	13,4	15,5	17,3
18	4,2	7,4	10,1	12,5	14,5	16,3
17	3,3	6,5	9,2	11,5	13,5	15,3
16	2,4	5,6	8,2	10,5	12,6	14,4
15	1,5	4,7	7,3	9,6	11,6	13,4
14	0,6	3,7	6,4	8,6	10,6	12,4
13	- 0,1	2,8	5,5	7,7	9,6	11,4
12	- 1,0	1,9	4,5	6,7	8,7	10,4
11	- 1,8	1,0	3,5	5,8	7,7	9,4
10	- 2,6	0,1	2,6	4,8	6,7	8,4
9	- 3,4	- 1,0	1,6	3,8	5,8	7,5
						6,5
						5,5
						4,5
						3,5

Example:

at +10°C air temperature and 80 % relative air moisture is the dew point at substrate temperatures of + 6,7°C.

At substrate temperatures of less then 6,7 + 3,0 = 9,7°C, it is not possible to apply coating systems.

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Measuring instruments for temperatures and air humidity

Combination of a ***Hygrometer*** and ***Thermometer*** with mit integrated dew point table.

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Measuring instruments for temperatures and air humidity

„Hygrothermograph“

Writes as well

* *Temperaturs*

as

* *relative air moisture*

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Measuring instruments for temperatures and air humidity

„Hygrothermometer“

To measure:

- relative air moisture,
- air temperature
- temperature of the substrate

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Measurement of compressive strength

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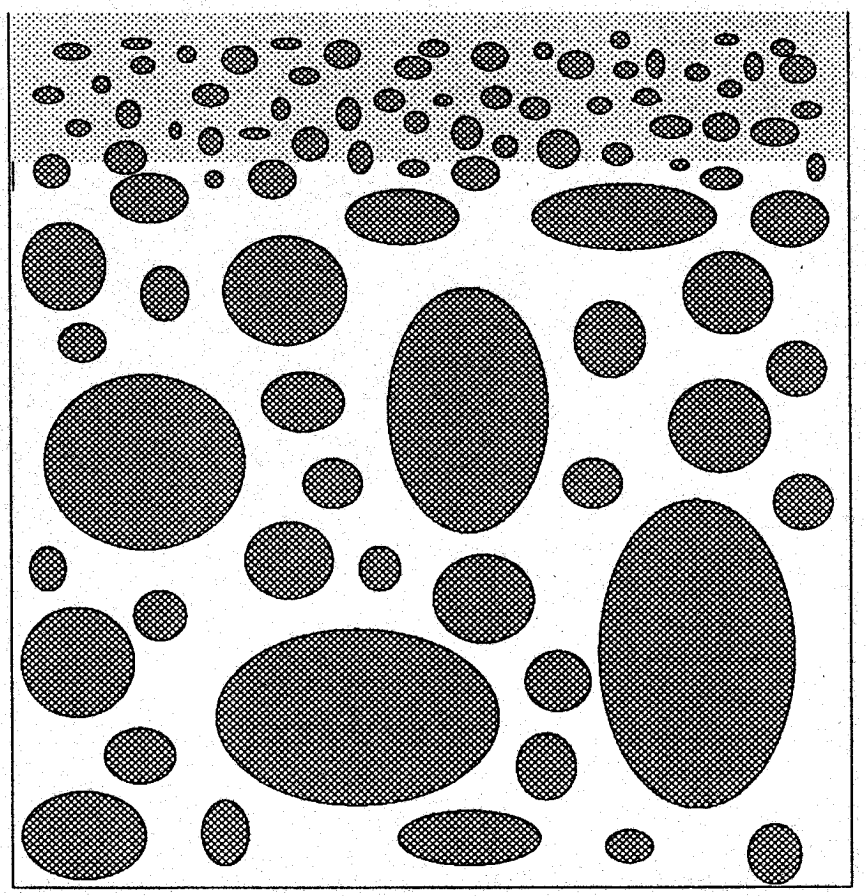
Concrete - Cross-section



← watery area

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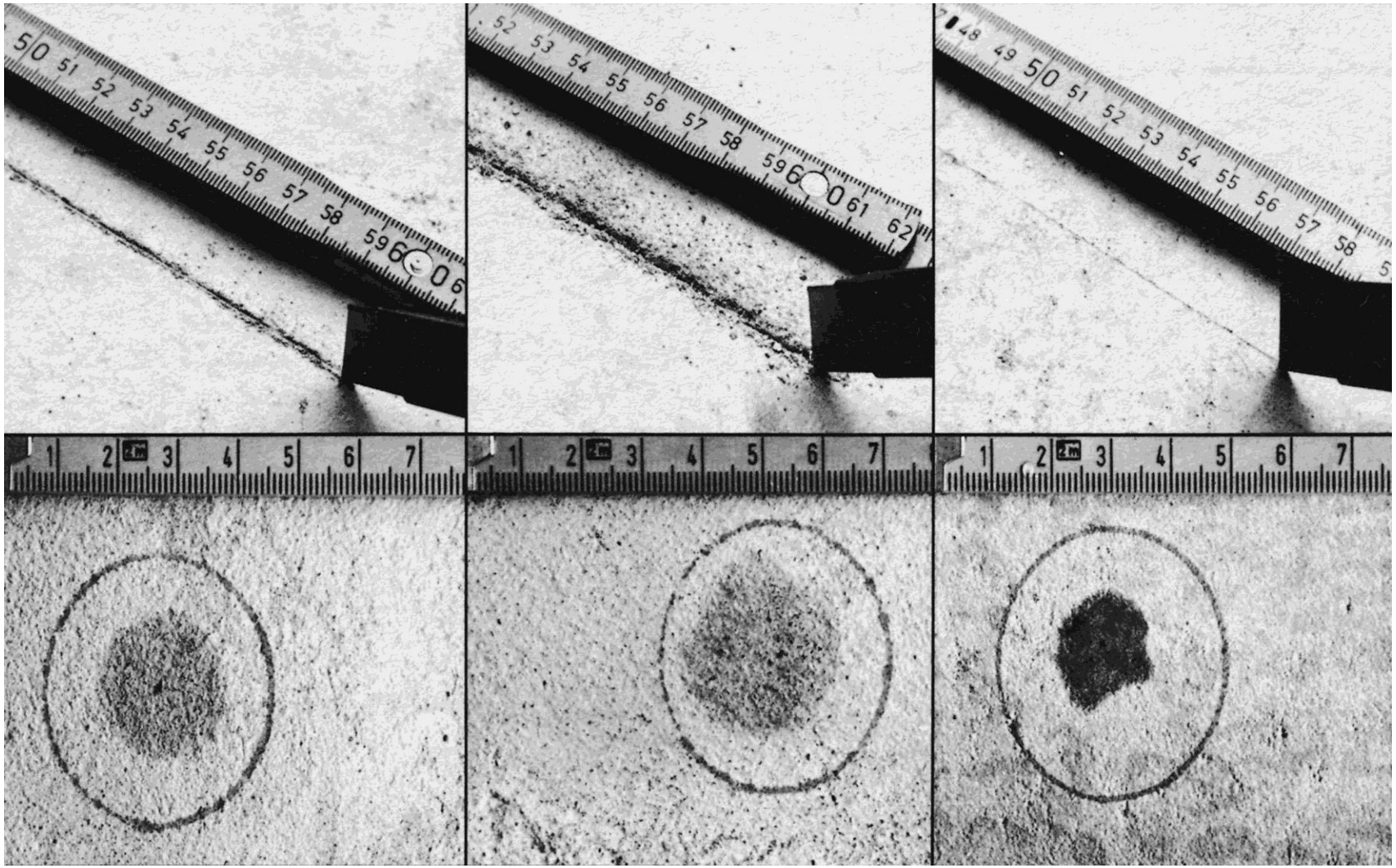
Scratch- and absorbing test method



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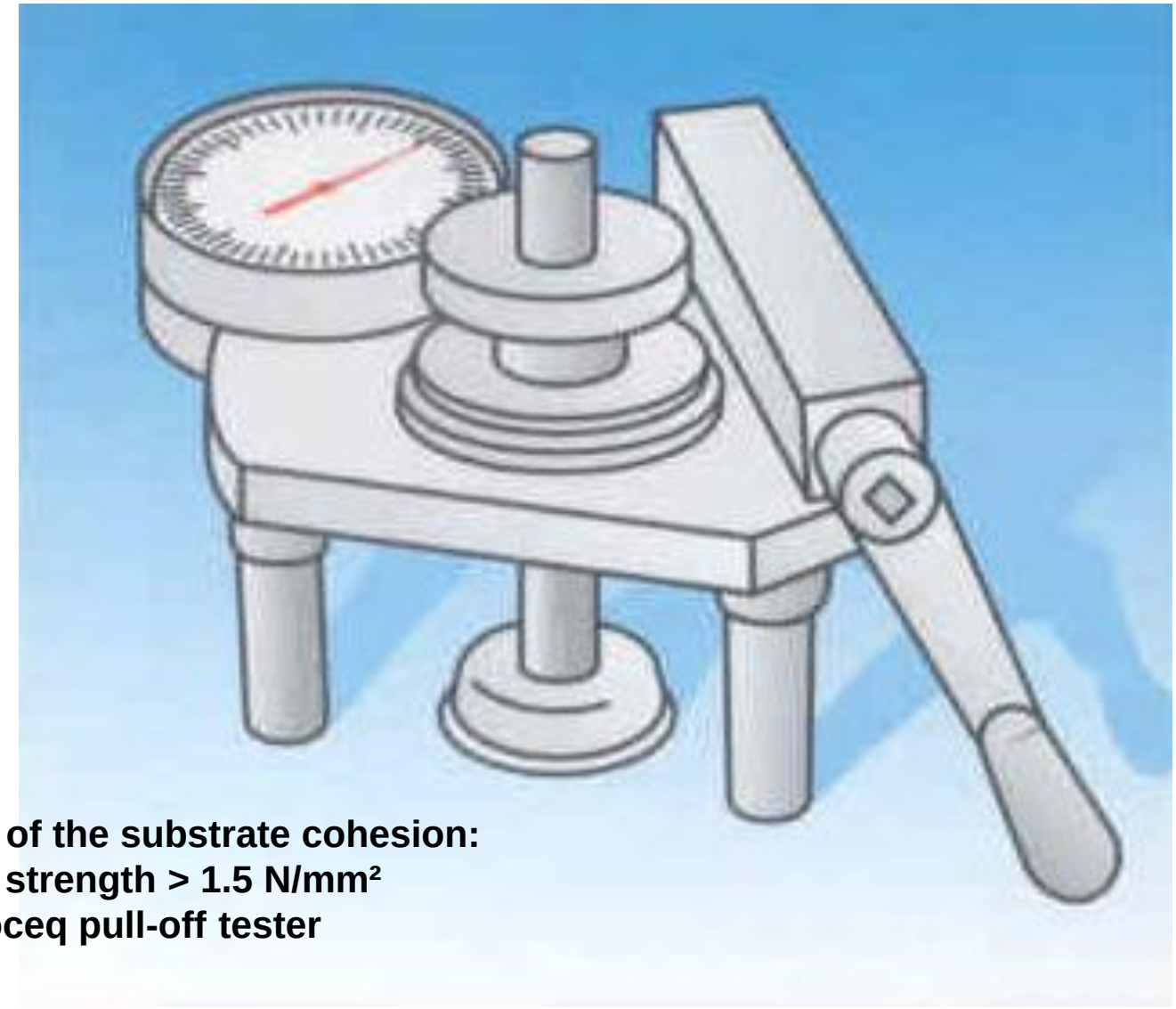
Pull-off test



Testing of the substrate cohesion:
Pull-off strength > 1.5 N/mm²
e.g. Proceq pull-off tester

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Pull-off test

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Pull-off test

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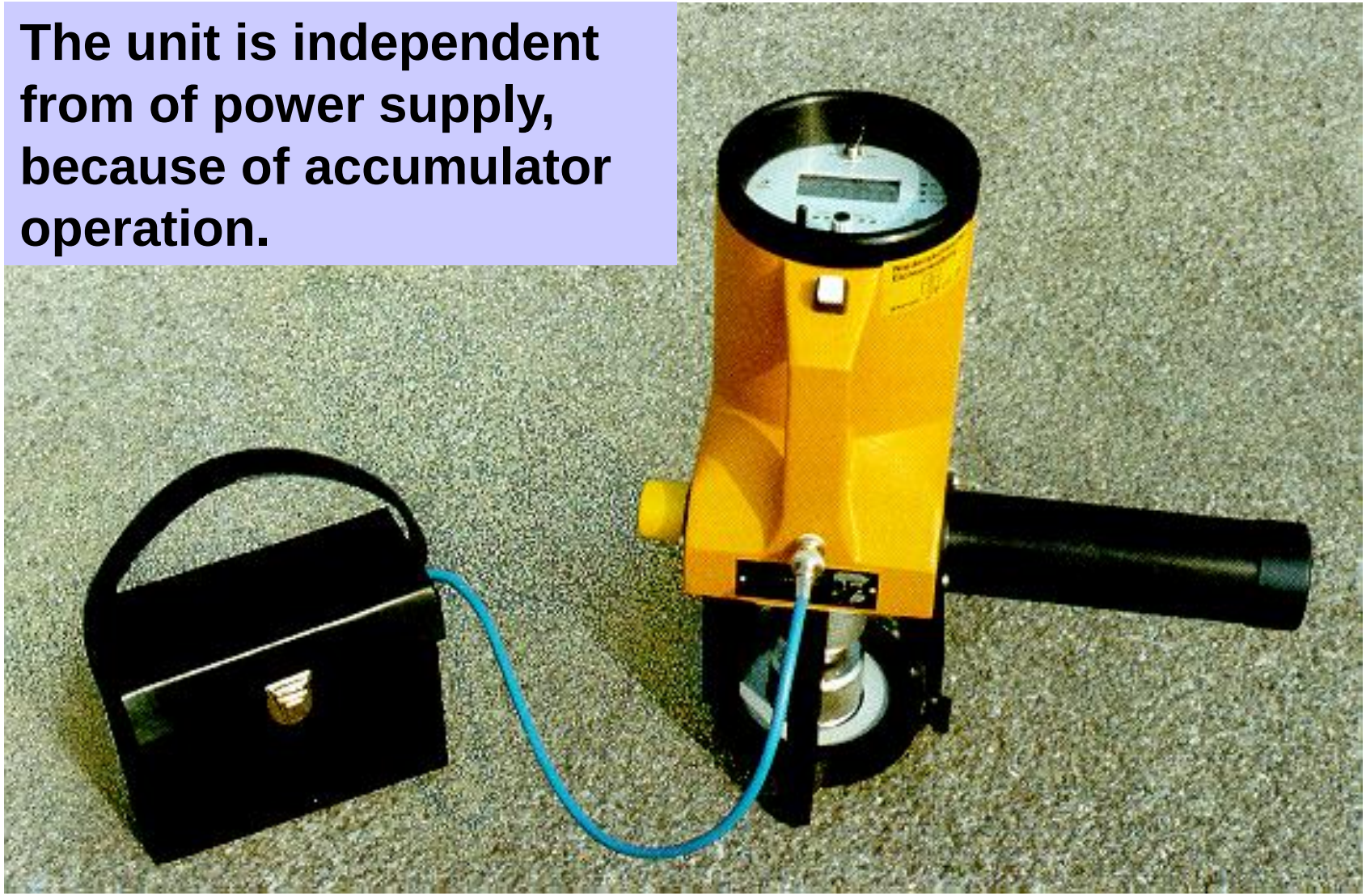
The unit is independent from of power supply, because of accumulator operation.



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Pull-off test

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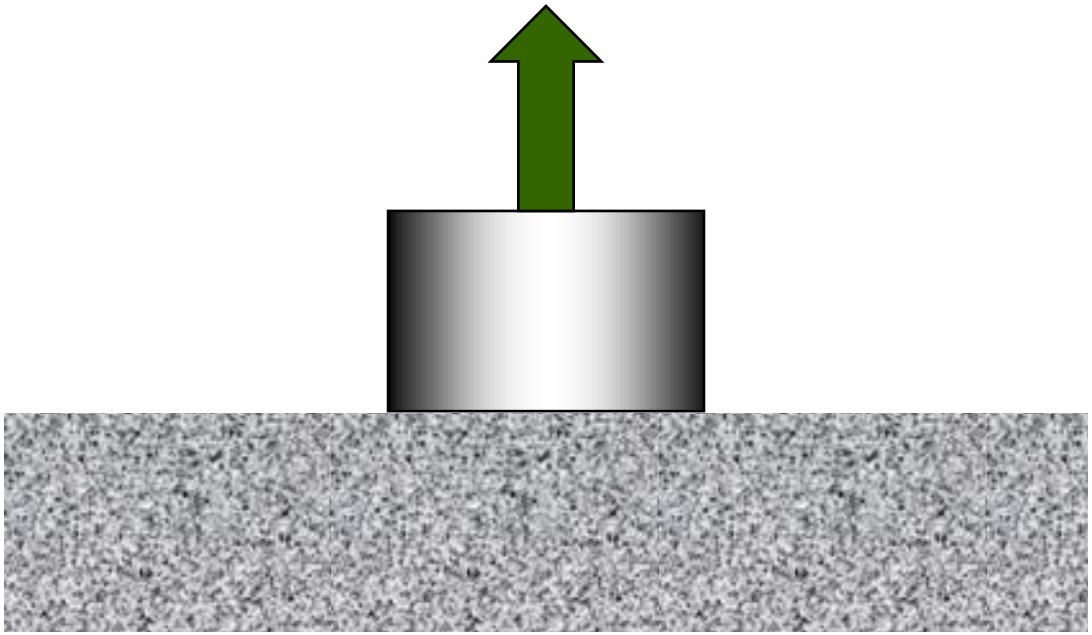
Pull-off test

Requirements



$f_{ct,m} \geq$ X,Y N/mm² (average value)

(X,Y depending of application!)

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Pull-off test

Requirements

Tabelle 2.3: Mechanische Eigenschaften (geforderte Oberflächenzugfestigkeiten des Betonuntergrundes)

	Schutz- bzw. Instandsetzungsmaßnahme: Örtliche Ausbesserung bzw. flächige Beschichtung	Mindestwerte der Oberflächenzugfestigkeit [N/mm²]	
		Mittelwert	kleinster Einzelwert
	1	2	3
1	Mörtel und Beton	1,5	1,0
2	OS 2 (OS B)	0,8	0,5
3	OS 5 (ohne Feinspachtel) (OS D)	1,0	0,6
4	OS 4 (OS C), OS 5 (OS D), OS 9 (mit Feinspachtel) (OS E)	1,3	0,8
5	OS 11 (OS F), OS 13	1,5	1,0

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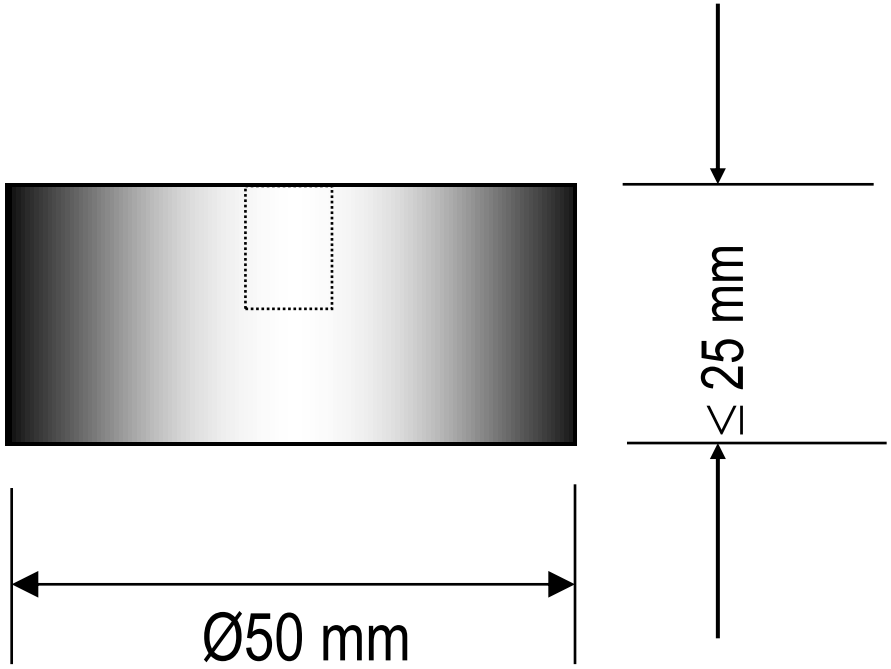
Requirements of the dolly



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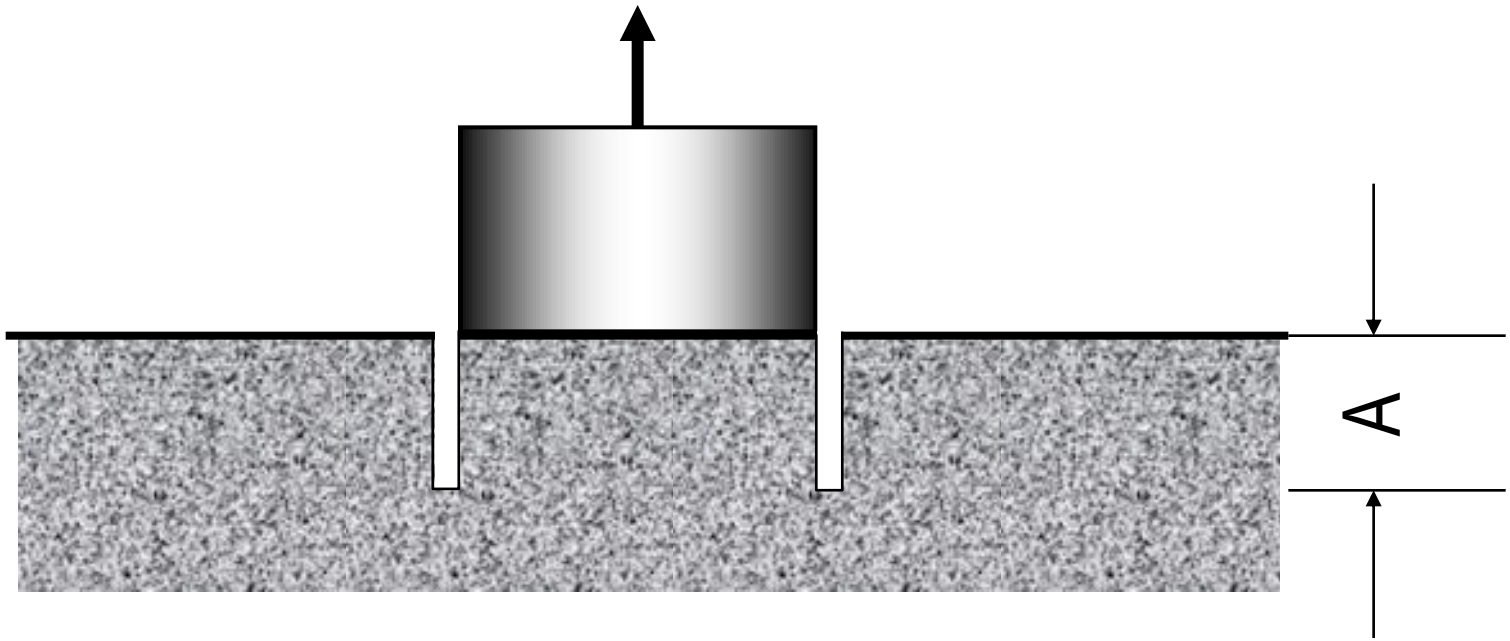
Requirements of the drill deep



Drill deep A for concrete: mind. 10 mm

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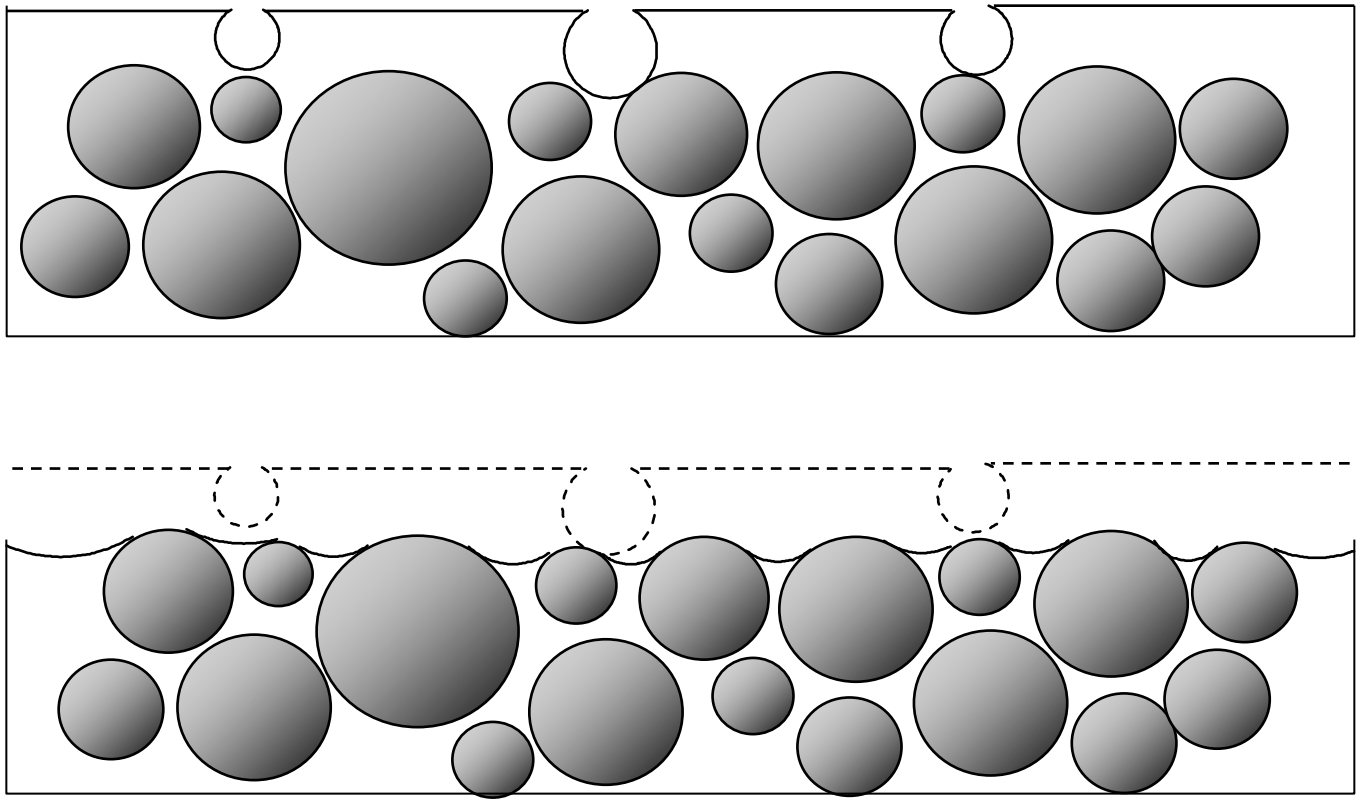
Surface preparation

Substrate before preparation



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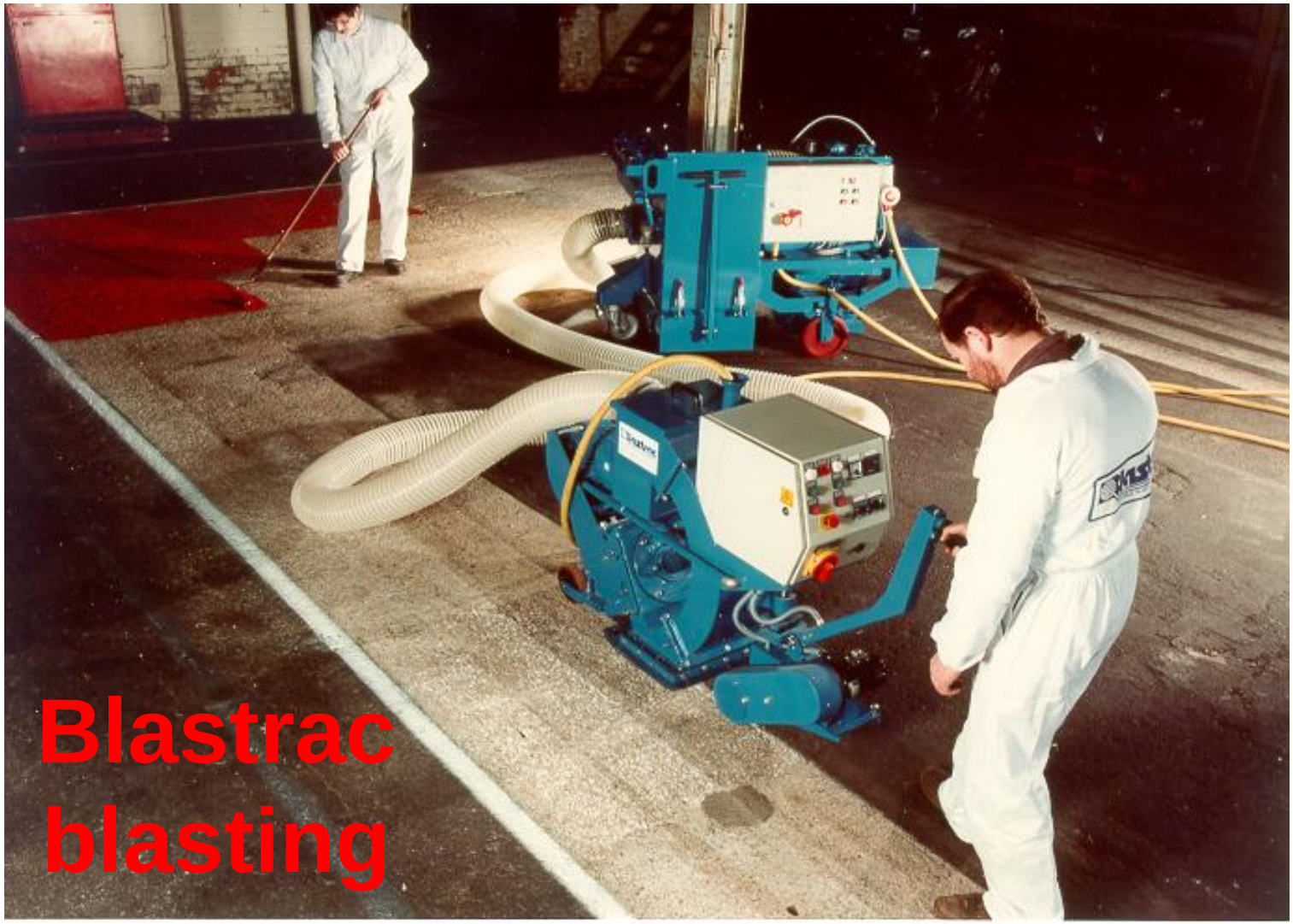
Surface preparation



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Surface preparation

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Surface preparation

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Construction

Surface preparation

Dust free grinding

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Construction

Surface preparation

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Surface preparation

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Construction

Surface preparation

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Surface preparation

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Surface preparation

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Surface preparation

Coatings must have a sufficient bonding to the substrate, therefore no contaminations and other separating materials may be exist.

The substrate must be able to take up the stresses, caused by the skrinkage of the coating during the reaction, as well as stresses which the coating can effect after application (mechanical load).

The substrate can meet these requirement first after corresponding surface preparation.

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Thank you for your

Attention

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