

Internal pressure

Thermoplastic pipe material

- Evaluation according to ISO 9080 regression analysis
- Classification of materials according to ISO 12162

ISO 12162 classification

- σ_{LTHS} Long-term hydrostatic strength
20°C for 50 years
- σ_{LCL} Lower confidence limit 20°C for
50 years
- MRS Minimum required strength
- C Overall service coefficient

Classification

Range of lower confidence limit MPa	Minimum required strength MRS	Classification number
5,00 - 6,29	5,0	50
6,30 - 7,99	6,3	63
8,00 - 9,99	8,0	80
10,00 - 11,19	10,0	100
11,20 - 12,49	11,2	112
12,50 - 13,99	12,5	125
14,00 - 15,99	14,0	140
16,00 - 17,99	16,0	160
18,00 - 19,99	18,0	180
20,00 - 22,39	20,0	200
22,40 - 24,99	22,4	224
25,00 - 27,99	25,0	250
28,00 - 31,49	28,0	280

Minimum values for C

Material	Minimum values for C
ABS	1,6
PB	1,25
PE (all types)	1,25
PE-X	1,25
PP copolymer	1,25
PP homopolymer	1,6
PVC-C	1,6
PVC-HI	1,4
PVC-U	1,6
PVDF copolymer	1,4
PVDF homopolymer	1,6

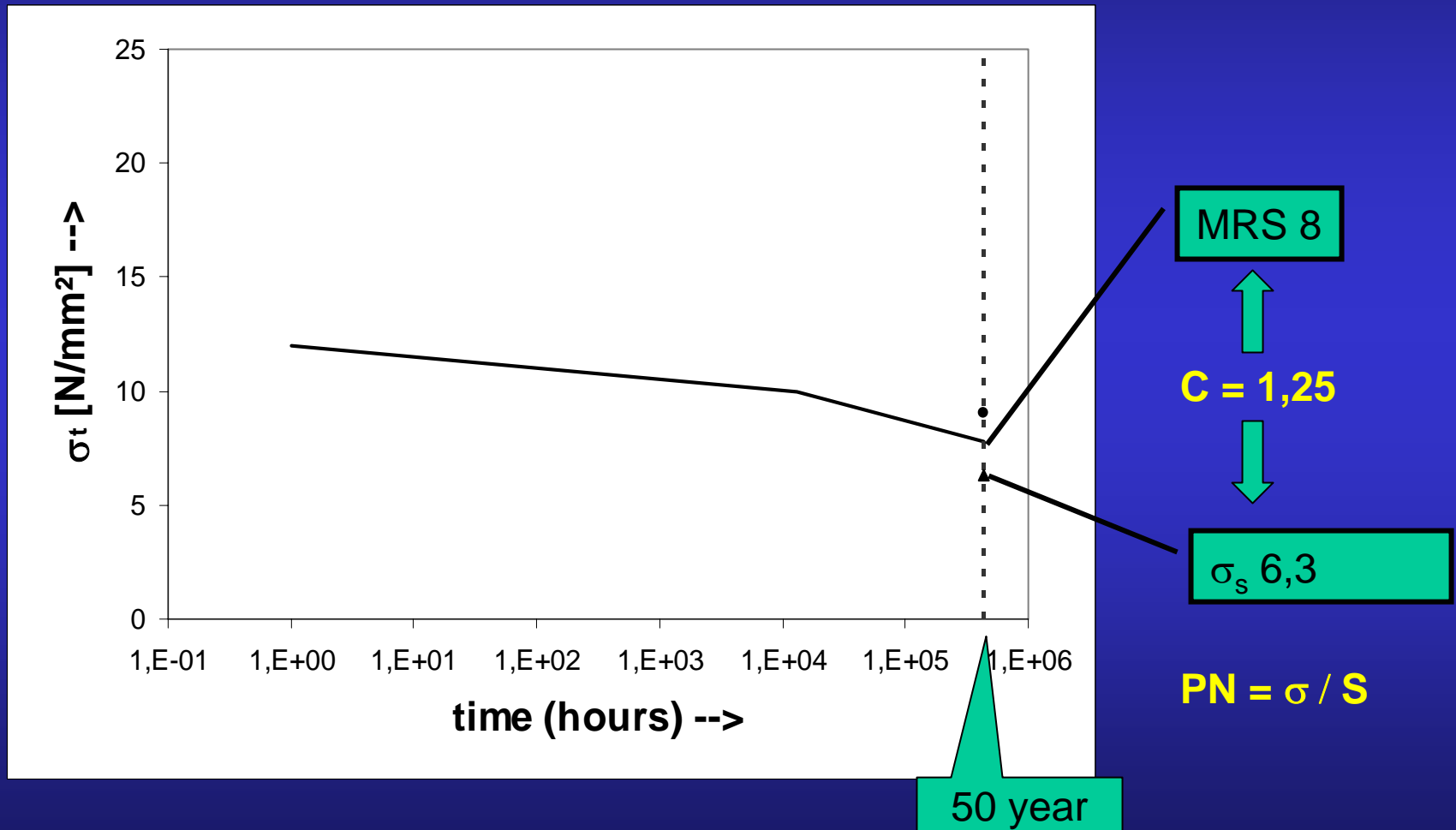
From σ_s to PN

$$\sigma_s = \text{MRS} / C$$

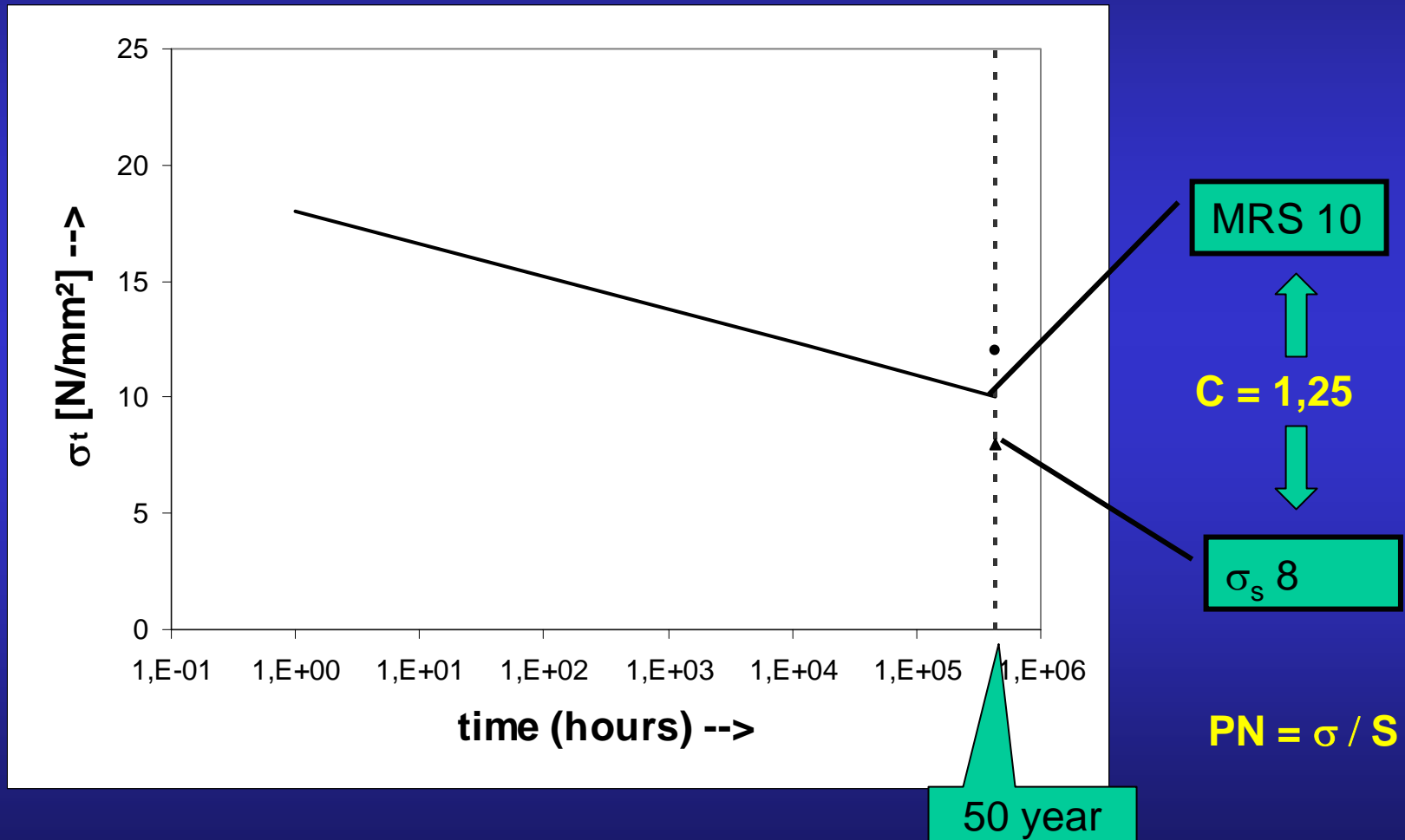
$$\text{PN} = 10 \times \sigma_s / S$$

$$\text{with: } S = (D - e) / 2e$$

PE 80 burst pressure



PE 100 burst pressure



PVC burst pressure

