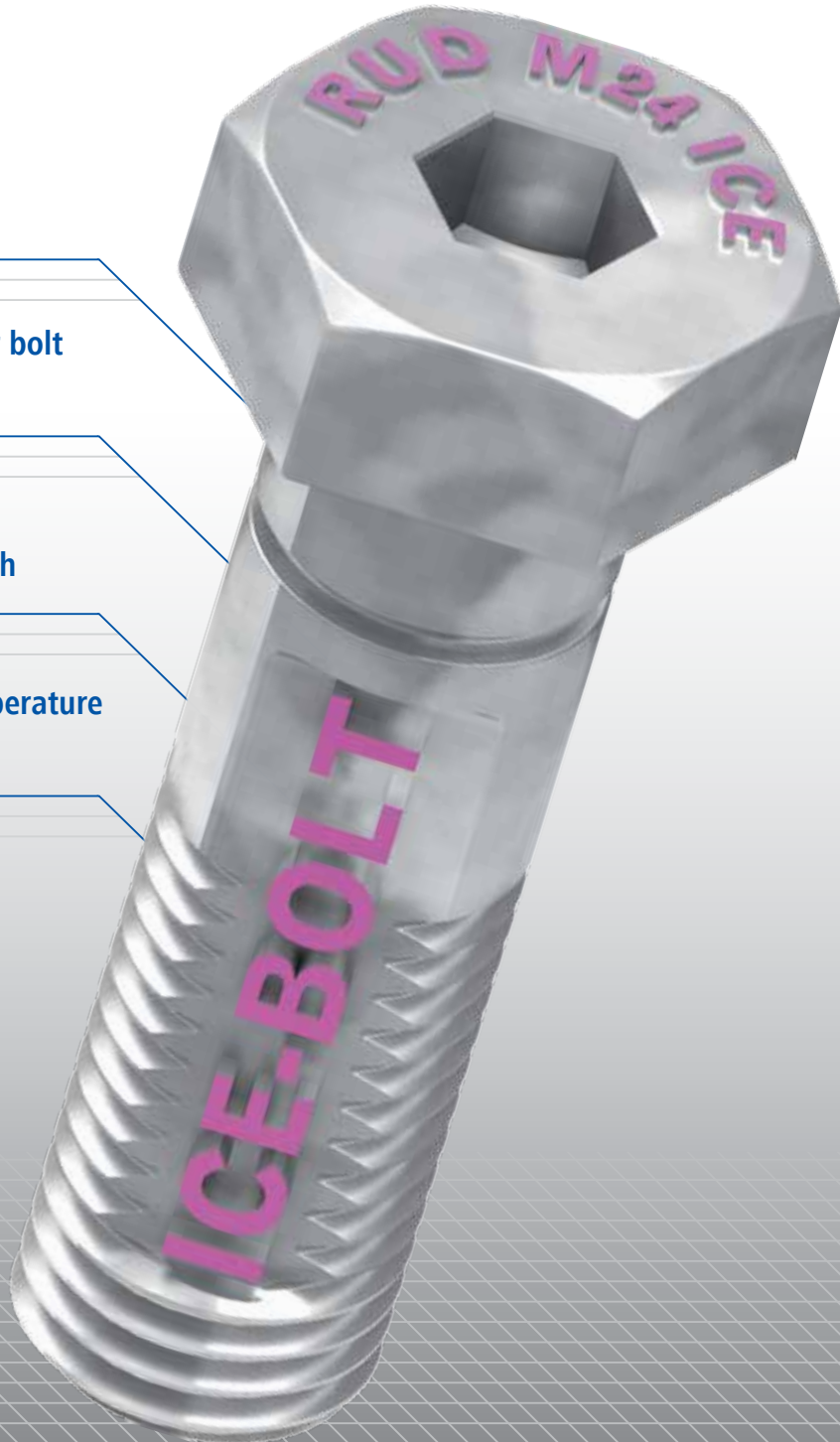


ICE®
I20

Increased WLL or thinner bolt diameters

Increased toughness for superior bending strength

Non-hazardous low temperature usage (up to -60 °C)



ICE-BOLT

A class of it's own

ICE-BOLT - A class of it's own

Mechanical and physical characteristics	Property class				
	8.8	8.8	10.9	12.9	ICE
	d<=16mm	d<=16mm			
Percentage breaking elongation on turned sample A, %	min. 12	12	9	8	12*/9**
Percentage reduction of area after fracture Z, %	min. 52	52	48	44	64*/54**

* actual values size M16 ** actual values size 1"

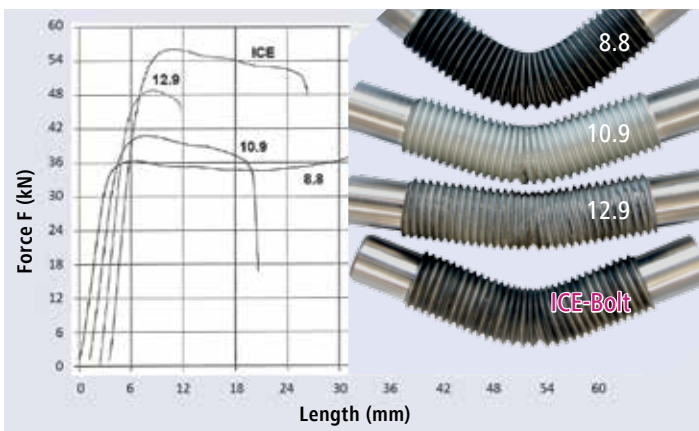
Part of ISO 898-1:2013-05

Nominal diameter	Minimum breaking force (kN)	
	8.8	ICE
M8		54.9
M10	46.4	87
M12	67.4	126.4
M16	125	235.5
M20	203	367.5
M24	293	529.5
M30	466	

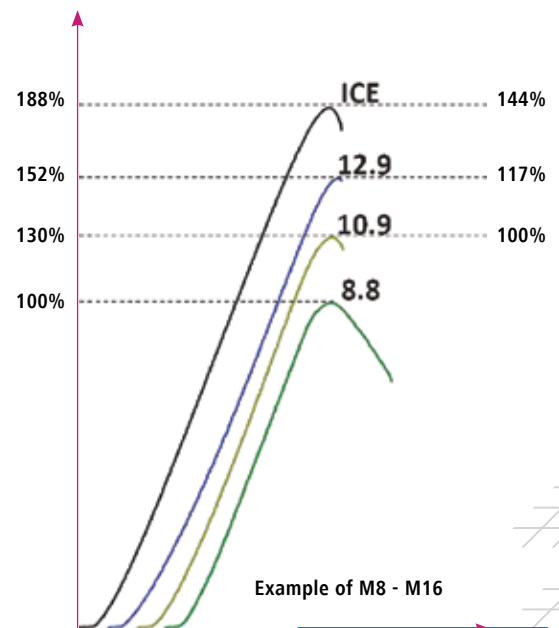
Always a size smaller than 8.8!

Nominal diameter	Minimum breaking force (kN)	
	10.9	ICE
M8		54.9
M10	60.3	87
M12	87.8	126.4
M16	163	235.5
M20	255	367.5
M24	367	529.5
M30	583	

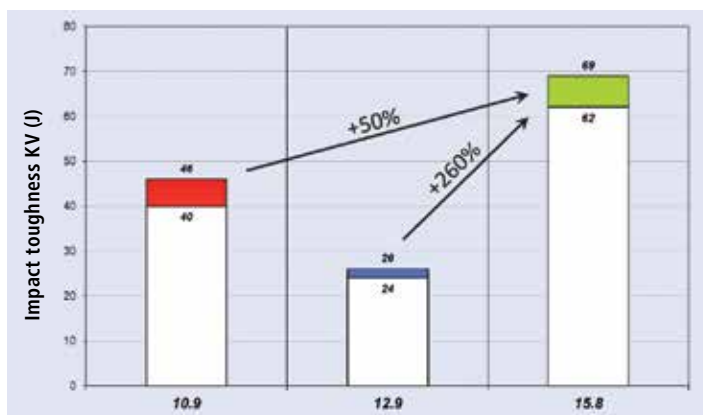
Comparison 10.9 to ICE



Threaded rods after Prisma-bending test



Tensile strength property class



Notch impact test acc. ISO 148-1, ISO V-samples, T = -40°C

