

## material specification

### s-mart HNBR

(hydrogenated acrylonitrile butadiene rubber)

property	unit	value	standard
color		● ● black/green	
durometer hardness	Shore A	85 ± 5	DIN 53505
density	g/cm <sup>3</sup>	1,22 ± 0,02	DIN 53479
tensile strength	N/mm <sup>2</sup>	≥ 18	DIN 53504
elongation at break	%	≥ 180	DIN 53504
100 % modulus	N/mm <sup>2</sup>	≥ 10	DIN 53504
compression set: 100°C / 22h	%	≤ 22	DIN ISO 815
tear strength	N/mm	30	DIN 53515
rebound resilience	%	29	DIN 53512
abrasion	mm <sup>3</sup>	90	DIN 53516
minimum service temperature	°C	-25	----
maximum service temperature	°C	+150	----
swelling behavior in ASTM oil no.1 acc. DIN 53521 70h/100°C:			
change in durometer hardness	Shore A	+6	DIN 53505
volume change	%	-8	DIN 53521
swelling behavior in ASTM oil no.3 acc. DIN 53521 70h/100°C:			
change in durometer hardness	Shore A	-8	DIN 53505
volume change	%	+11	DIN 53521
heat resistance, air 70h/100°C:			
change in durometer hardness	Shore A	+5	DIN 53505
volume change	%	0	DIN 53521
swelling behavior, water 70h/100°C			
change in durometer hardness	Shore A	0	DIN 53505
volume change	%	+2,5	DIN 53521

the mentioned data are only valid for test pieces of the corresponding ISO, DIN and ASTM standards and cannot be directly related to gaskets and joints. the values which are marked with the symbols greater than (≥) and smaller than (≤) are nominal values and must be fulfilled of each batch. all values which are not marked are typical values which are only tested on selected samples.