



Test protocol			
Test code	filter EN 143 149 14683		
Type of test:	Flat sheet sample according to EN 149, EN 143, EN 14683		
Customer			
Laboratory:	Technical University of Liberec, CXI, INTEC		
Tester:	Jakub Hrůza		
Date of test:	19 June 2020	Signature:	

Test parameters			Value	Unit
filter area:			100	cm ²
face velocity:			15,50	cm/sec
dust/aerosol:			DEHS	-
discharge:			no	-
downstream test duration			60	sec
total volume flow:			95,00	l/min
particle size range			0,12 - 3,5	μm
number of test samples			3,00	-
temperature			21	°C
relative humidity			54	%
atmospheric pressure			1010	mbar

Test filter parameters	
Sample:	Description
type: rouška	
0	
0	
0	
0	
0	
0	
0	
0	

Tested properties	
Δp ₀ 95 (Pa)	Initial pressure drop fro flow 95 l/min
Δp ₀ 30 (Pa)	Initial pressure drop fro flow 30 l/min

BFE (%)	Estimation of efficiency for particle size 3 µm according to EN 14683.
E (0,6 µm)	Efficiency for particle size 0.6 µm - estimation of efficiency according to EN 143 or EN 149

Test results					
Sample:	$\Delta p_{0.95}$ (Pa)	$\Delta p_{0.30}$ (Pa)	E (0,6 µm)	BFE (%)	Classification (EN 149)
0	0,0	0,0	0,00	99,00	no
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		
0	0,0	0,0	0,00		

Classification according to EN 149 standard (EN 143)

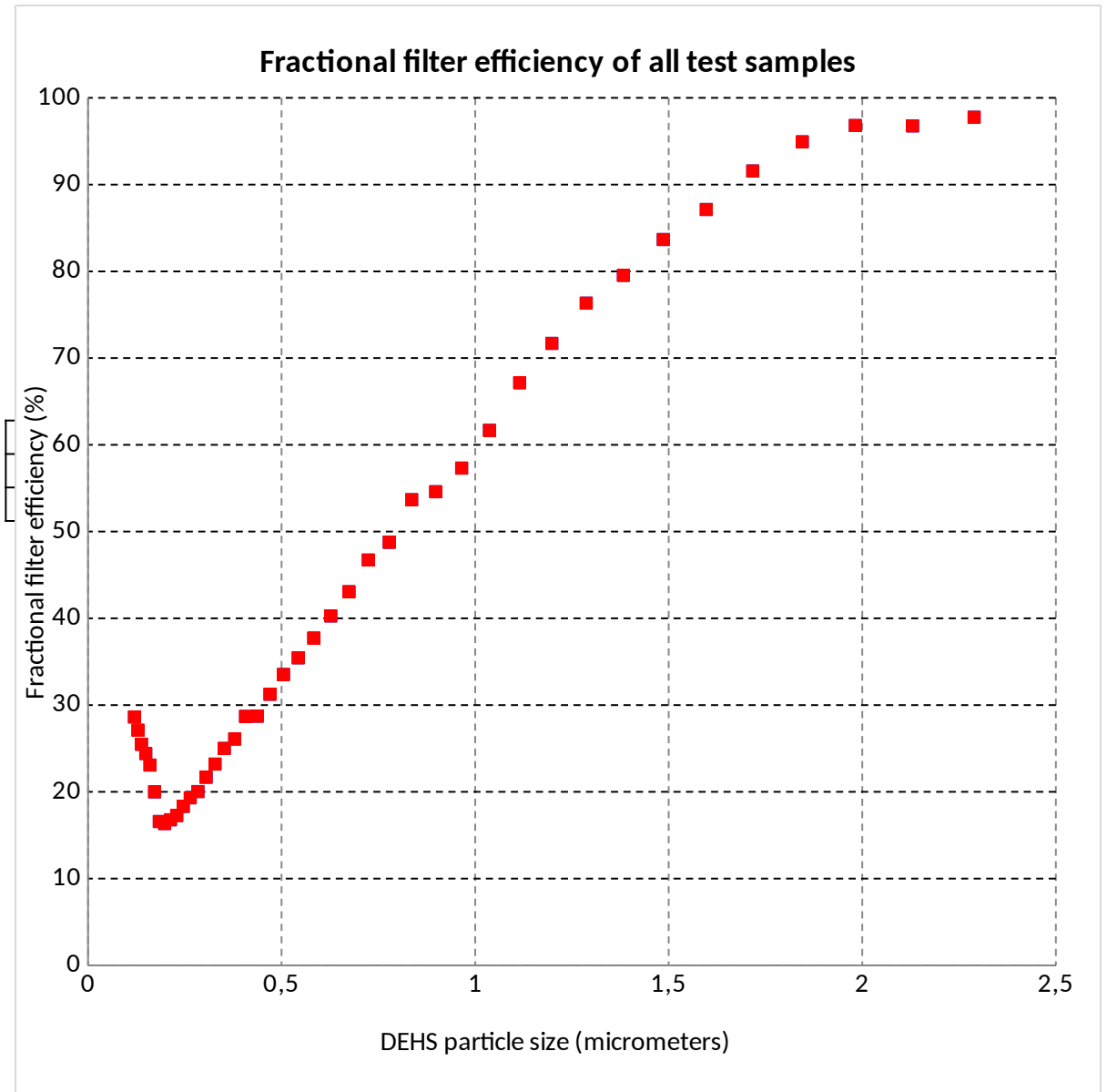
Maximum pressure drops (Pa)		
Class	flow 30 l/min	flow 95 l/min
FFP1	60	210
FFP2	70	240
FFP3	100 (120 for EN 143)	300 (420 for EN 143)

Minimum filter efficiency for particle with mean size 0,6 µm (%)		
Class	Sodium chloride particles	Parafin oil particles
FFP1	80	80
FFP2	94	94
FFP3	99	99

Classification according to EN 14683 standard

Class	minimum efficiency of 3 µm droplets with bacteria	Maximum pressure drop for air velocity 5,3 cm/sec (Pa)	Special requirement

Type I	95	29,4	
Type I R	95	49	Water repelency
Type II	98	29,4	
Type II R	98	49	Water repelency



sample	type: rouška
X [μm]	E [%]
0,12	28,633853
0,129	27,104448
0,138	25,478116
0,149	24,41688
0,16	23,081904
0,172	19,99339
0,184	16,580835
0,198	16,34091
0,213	16,777491
0,229	17,25972
0,246	18,323168
0,264	19,31612
0,284	20,03604
0,305	21,683585
0,328	23,193046
0,352	25,000373
0,379	26,093392
0,407	28,69852
0,437	28,724706
0,47	31,25236
0,505	33,532942
0,543	35,44826
0,583	37,724305
0,627	40,280581
0,674	43,069134
0,724	46,72372
0,778	48,766477
0,836	53,675256
0,898	54,592218
0,965	57,32393
1,037	61,675465
1,115	67,164693
1,198	71,695199
1,287	76,333156
1,383	79,536824
1,486	83,668685

Classification according to EN 779	Average arrestance of synthetic dust (%)	Average efficiency of 0,4 μm DEHS aerosol particles (%)
G1	$A_m < 65$	
G2	$65 \leq A_m < 80$	
G3	$80 \leq A_m < 90$	
G4	$90 \leq A_m$	
M5		$40 \leq E_m < 60$
M6		$60 \leq E_m < 80$
F7		$80 \leq E_m < 90$
F8		$90 \leq E_m < 95$
F9		$95 \leq E_m$

Classification according to EN 1822	Efficiency of MPPS DEHS particles (%)
E10	≥ 85
E11	≥ 95
E12	$\geq 99,5$
H13	$\geq 99,95$
H14	$\geq 99,995$
U15	$\geq 99,9995$
U16	$\geq 99,99995$
U17	$\geq 99,999995$

1,597	87,128501
1,717	91,5696
1,845	94,928796
1,982	96,811247
2,13	96,767505
2,289	97,76382
2,46	98,801828

min	16,34091
mean	23,40579995
průměrné hodnoty	
vzorek	type: rouška
dP test start	60
dp test end	63
dp 30l/min initial	15
E (MPPS)	x50 = 0,792 µm
E (120 nm)	28,633853
E (průměr do 1 micron)	37,724305
směrodatné odchytky	
vzorek	
dP test start	
dp test end	
E (MPPS)	
E (400 nm)	