

Index

1M filters, 107

2M filters, 108

3M filters, 109

A

absorbers, 66

all-dielectric bandpass filters, 77

aluminum, 13

aluminum fluoride, 13

antireflection coatings, 23, 28

antireflective, 3

B

bandpass filters, 9, 82, 127

reflective, 127

beam splitters, 6, 38, 61

broadband filters, 136

C

cerium fluoride, 13

chromium, 13

cold mirrors, 45

crown glass (BK7), 23

cryolite, 13

D

dark mirror, 66

dichroic, 45

dielectric filter, 127

dispersion, 3

dispersive index values, 15

dual-function film, 67

E

edge filters, 127

electron beam, 10, 11

etalon coating, 62

etalon filters, 78

F

Fabry–Perot filters, 77

fully blocked ultraviolet filters, 117

fully blocked visible filters, 107

G

gain-flattening filters (GFFs), 41

germanium, 14

gold, 14

gold mirror, 60

green filters, 71

H

hafnium oxide, 14

Herpin, 102

Herpin layers, 88

high-index spacer, 84

high-reflection coatings, 6

hot mirror, 45

I

Inconel®, 14, 64

index of refraction, 2

indium tin oxide, 14

interference filter, 8

ion plating, 10

ion-aided deposition, 10

ion-beam sputtering (IBS), 11, 13

L

lanthanum fluoride, 14

lead fluoride, 14

linear reflector, 40

long-pass filters, 45, 100, 137

low-index spacer, 84
low-loss films, 13
low-side blocker, 98

M

magnesium fluoride, 3, 14, 23
metal films, 55
microwave filters, 88
mirrors, 55
multicavity, 79
multilayer films, 35
multilayers, 4

N

narrower bands, 73
neutral-density filters, 64
nickel, 14
niobium oxide, 14
nonpolarizing reflection filters, 127
nonpolarizing transmissive filters, 135
nonquarterwave GFF, 42
notch filters, 52

O

optical
 films, 1
 filter, 2
 monitoring, 97
orange filter, 128
overcoats, 55

P

partial reflectors, 6
polarization, 7
profile filters, 41

Q

quarterwave films, 4
quartz, 6

R

red filter, 74
reflection, 2
reflection band, 7

reflection zone, 35
reflective color filters, 68
ripple, 45, 86

S

semiclassical filters, 86
short-pass filters, 45, 49, 100, 141
silicon, 15
silicon dioxide, 15
silicon monoxide, 15
silver, 15
silver, enhanced, 59
silver, protected, 59
silver mirrors, 59
single quarterwave-thickness layer, 23
single-layer coatings, 23
slope, 47
solar coatings, 65
spacer, 84
sputtered films, 11, 12
stained-glass mirror, 68
substrate, 2

T

tantalum pentoxide, 6, 15
thermal coefficient of expansion, 9
thermal deposit, 9, 11
three-layer designs, 26
two-layer coatings, 24

U

ultraviolet AR coatings, 32
ultraviolet filter, 10

W

wavelength, 1
wavelength-division multiplexer
 (WDM), 6
wide filters, 85

Z

zinc sulphide, 15
zirconium oxide, 15



David Cushing was a thin-film consultant who had more than 40 years experience in the optical coating field. At the time of his death in 2009, he was programming and running a 48-inch box coater in the University of Arizona and pursuing independent studies of advanced spectral-design techniques. He authored papers on a variety of filter types and held 7 US patents and a number of world patents, mostly related to WDM filter designs.

Former employment included 3 years as Director of Coating R&D at 3M Precision Optics and 10 years at JDS Uniphase Ottawa. He was technical director of OCA (MicroCoatings Inc) from 1971 to 1990. Before that he held various positions in Bairdco (Baird Atomic Inc).