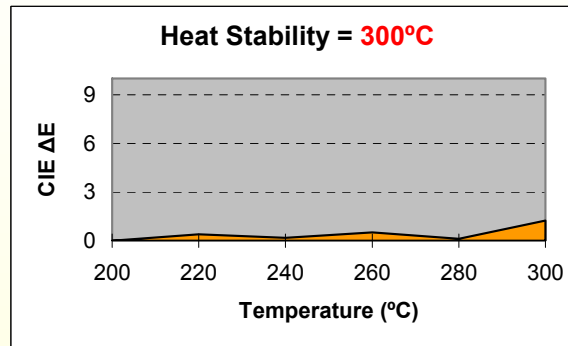


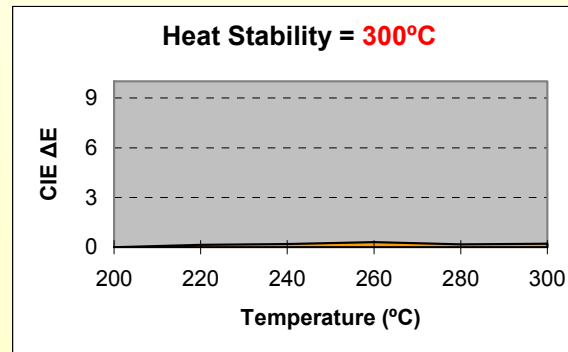
Gray Color- using TAN 10A

	200°C (392°F)	220°C (428°F)	240°C (464°F)	260°C (500°F)	280°C (536°F)	300°C (572°F)
ΔL^*		-0.39	-0.19	0.51	0.09	-1.24
Δa^*		0.00	0.02	0.04	0.05	-0.01
Δb^*		-0.02	0.01	0.08	-0.06	-0.01
ΔE^*		0.39	0.19	0.52	0.12	1.24



Gray Color-TIOPREM GRAY (MAX)

	200°C (392°F)	220°C (428°F)	240°C (464°F)	260°C (500°F)	280°C (536°F)	300°C (572°F)
ΔL^*		-0.14	-0.19	-0.30	-0.15	0.19
Δa^*		0.00	0.00	0.04	0.02	0.02
Δb^*		-0.02	-0.06	0.06	-0.09	-0.09
ΔE^*		0.15	0.20	0.31	0.17	0.21



HDPE Extrusion Formula : Gray Color (maximum)

Without TIOPREM GRAY

Pigments

Raven 14 Carbon Black
Tan10A Yellow
TIOPREM GRAY
Kronos 2160 White TiO₂

% wt.
13.000
6.500
0.000
<u>80.500</u>
100.000

With TIOPREM GRAY

% wt.
8.000
0.000
80.000
<u>12.000</u>
100.000

pHR (parts per hundred resin) prime pigment loading= 2.0

Raw Material

HDPE
Raven 14 Carbon Black
Tan10A Yellow
TIOPREM GRAY
Kronos 2160 White TiO₂

<u>pHR</u>	<u>%F.W.</u>
100.000	98.039
0.2600	0.2549
0.1300	0.1275
0.0000	0.0000
<u>1.610</u>	<u>1.578</u>
102.000	100.000

<u>pHR</u>	<u>%F.W.</u>
100.000	98.039
0.1600	0.1569
0.0000	0.0000
1.6000	1.5686
<u>0.240</u>	<u>0.235</u>
102.000	100.000

OPACITY

pHR (parts per hundred resin) loading= 0.25

Thickness of sample = .022 in