

Color Concentrate Formulations containing Hitox

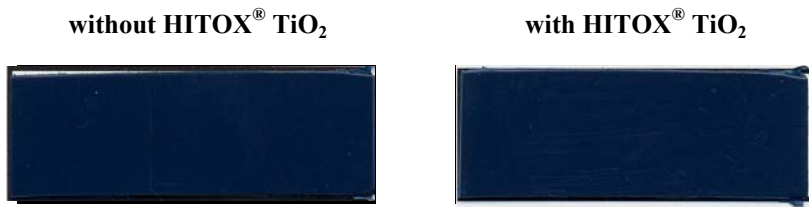
Color Match ID : Blue Concentrate

	without HITOX [®] TiO ₂	with HITOX [®] TiO ₂
<u>Pigments</u>	<u>% wt.</u>	<u>% wt.</u>
R330R Black	8.571	5.350
P.T. Blue 15:3	40.000	32.500
HITOX [®] TiO ₂	0.000	40.400
KRONOS [®] 2160 "White" TiO ₂	51.429	21.750
	100.000	100.000

Color Concentrate Formula

pHR "prime" pigment = 21.21

	without HITOX [®] TiO ₂		with HITOX [®] TiO ₂	
<u>Raw Material</u>	<u>pHR</u>	<u>%F.W.</u>	<u>pHR</u>	<u>%F.W.</u>
LLDPE	100.000	81.162	100.000	81.162
Zinc Stearate	1.000	0.812	1.000	0.812
L-207 Wax	1.000	0.812	1.000	0.812
R330R Black	1.8180	1.4755	1.1347	0.921
P.T. Blue 15:3	8.4840	6.8858	6.8933	5.595
HITOX [®] TiO ₂	0.0000	0.000	8.5688	6.955
KRONOS [®] 2160 "White" TiO ₂	10.9080	8.853	4.6132	3.744
	123.210	100.000	123.210	100.000



CIE* DE* Vs. Standard :

Reference

DL = -0.37

Da = 0.09

Db = -0.68

DE = 0.78

Relative Cost Savings Using HITOX:

Reference

18.01%

Color Match ID : Gray Concentrate

<u>Pigments</u>	without HITOX [®] TiO ₂	with HITOX [®] TiO ₂
	% wt.	% wt.
Carbon Black	3.250	2.600
1050 Citation Red	0.200	0.000
1276 Diarylide Yellow	0.200	0.000
HITOX [®] TiO ₂	0.000	40.000
KRONOS [®] 2160 "White" TiO ₂	96.350	57.400
	100.000	100.000

Color Concentrate Formula

pHR "prime" pigment = 61.43

<u>Raw Material</u>	without HITOX [®] TiO ₂		with HITOX [®] TiO ₂	
	pHR	%F.W.	pHR	%F.W.
LLDPE	100.000	61.186	100.000	61.186
Zinc Stearate	1.000	0.612	1.000	0.612
L-207 Wax	1.000	0.612	1.000	0.612
Carbon Black	1.9967	1.2217	1.5973	0.977
1050 Citation Red	0.1229	0.0752	0.0000	0.000
1276 Diarylide Yellow	0.1229	0.0752	0.0000	0.000
HITOX [®] TiO ₂	0.0000	0.000	24.5744	15.036
KRONOS [®] 2160 "White" TiO ₂	59.1936	36.218	35.2643	21.577
	163.436	100.000	163.436	100.000



CIE* DE* Vs. Standard :

Reference

DL = -0.01
Da = -0.51
Db = 0.53
DE = 0.73

Relative Cost Savings Using HITOX:

Reference

17.98%

Color ID: Brown

Pigments

Raven 430
 110M Red Iron Oxide
 1000HRA Yellow Iron Oxide
 HITOX TiO₂
 White TiO₂

Standard Formula

	% wt.
	1.417
	12.056
	34.054
	0.000
	52.473
	100.000

With HITOX ULX TiO₂

	% wt.
	1.200
	9.750
	25.500
	30.000
	33.550
	100.000

Color Concentrate Formula

pHR "prime" pigment = 40.0

Raw Material

LLDPE Powder
 L-207 Wax
 Zinc Stearate
 Raven 430
 110M Red Iron Oxide
 1000HRA Yellow Iron Oxide
 HITOX TiO₂
 White TiO₂

Standard Formula

	pHR	%F.W.
	100.000	70.423
	1.000	0.704
	1.000	0.704
	0.5668	0.399
	4.8224	3.396
	13.6216	9.593
	0.0000	0.000
	20.9892	14.781
	142.000	100.000

With HITOX ULX TiO₂

	pHR	%F.W.
	100.000	70.423
	1.000	0.704
	1.000	0.704
	0.4800	0.338
	3.9000	2.746
	10.2000	7.183
	12.0000	8.451
	13.4200	9.451
	142.000	100.000

Standard Formula



With HITOX ULX TiO₂



CIE* Color Difference: HITOX ULX Vs. Standard Formula

Reference

D L = -0.35
 D a = -0.69
 D b = 0.37
D E = 0.86

Relative Cost Savings Using HITOX:

Reference

11.56%

Color ID: Green

Pigments

Raven 430
 PT Green
 1000HRA Yellow Iron Oxide
 HITOX TiO₂
 White TiO₂

Standard Formula

	% wt.
	0.002
	28.605
	15.839
	0.000
	55.554
	100.000

With HITOX ULX TiO₂

	% wt.
	0.033
	25.064
	14.460
	29.966
	30.477
	100.000

Color Concentrate Formula

pHR "prime" pigment = 25.0

Raw Material

LLDPE Powder
 L-207 Wax
 Zinc Stearate
 Raven 430
 PT Green
 1000HRA Yellow Iron Oxide
 HITOX ULX TiO₂
 White TiO₂

Standard Formula

	pHR	%F.W.
	100.000	78.740
	1.000	0.787
	1.000	0.787
	0.0006	0.000
	7.1512	5.631
	3.9597	3.118
	0.0000	0.000
	13.8886	10.936
	127.000	100.000

With HITOX ULX TiO₂

	pHR	%F.W.
	100.000	78.740
	1.000	0.787
	1.000	0.787
	0.0082	0.006
	6.2661	4.934
	3.6149	2.846
	7.4916	5.899
	7.6193	5.999
	127.000	100.000

Standard Formula



With HITOX ULX TiO₂



CIE* Color Difference: HITOX ULX Vs. Standard Formula

Reference

D L = - 0.19
 D a = -0.27
 D b = 0.03
D E = 0.33

Relative Cost Savings Using HITOX:

Reference

11.80%