

OSC 12
Ohio Safety Congress & Expo

WELL AT HOME, SAFE AT WORK

351 Hand Safety

Brian McClain

Wednesday, March 28, 8:15 to 9:15 a.m.

Ohio Bureau of Workers' Compensation

Continuing Nursing Education Disclosures

- o **Goal:** To educate conference attendees on specific aspects of accident prevention and Ohio's workers' compensation system
- o **Learning objectives for session # 351 Hand Safety:**
 - Explain cut protection
 - Describe how to prevent injuries
 - Identify ways to choose the correct personal protective equipment
- o **Criteria for Successful Completion:** Attend the entire event and complete a session evaluation.
- o **Conflict of Interest:** The planners and faculty have a conflict of interest that was resolved.
- o **Commercial Support:** There is no commercial support for this event.
- o **Continuing Education:** Awarded 0.1 IACET general CEUs and 1.0 RN* contact hour.

*The Ohio BWC (OH 18801-01-2012) is an approved provider of continuing nursing education by the Ohio Nurses Association (ONA 001 91), an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

OSC 12

WELL AT HOME SAFE AT WORK **OSC 12**
Ohio Safety Congress & Expo

- **Title:** Hand Safety
- **Session #:** 351

STAUFFER SAFETY

Advances in Hand Protection

BRIAN MCCLAIN

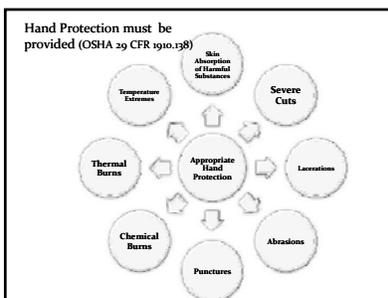


More Injury Statistics

US CDC estimates 1,080,000 hand injuries with emergency room visits per year

More than 10,000 days-away-from-work each year from hand and finger lacerations per year.

Don't Jeopardize your hands

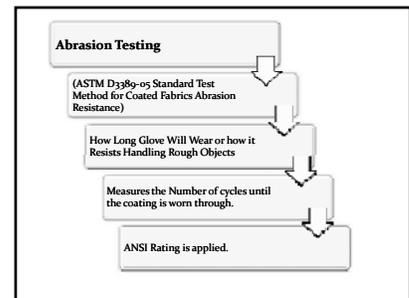
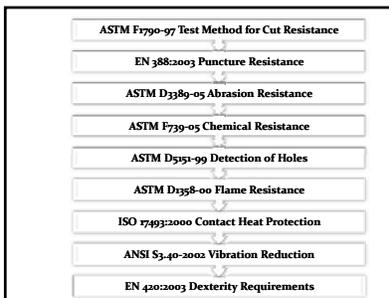
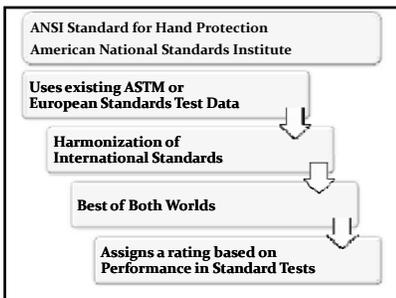
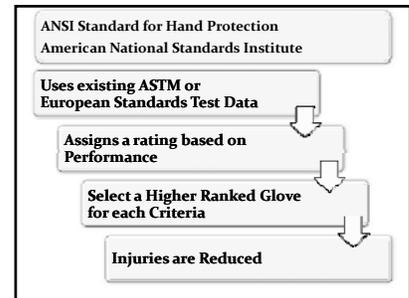
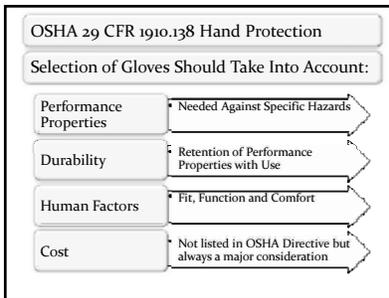


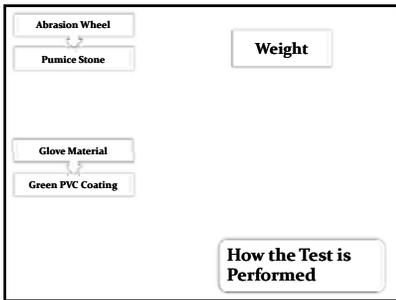
Now for the First Question...

The First "Don't Put Yourself in Jeopardy" Question is....

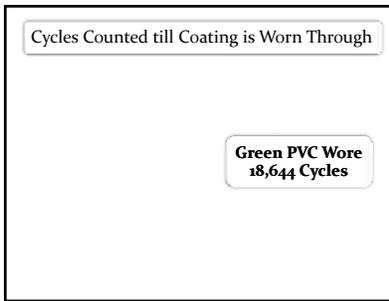
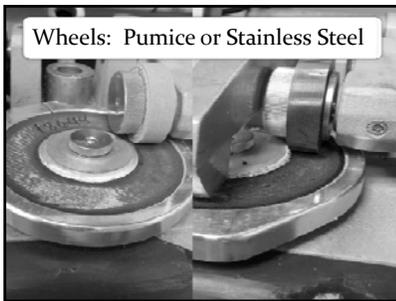
According to OSHA, the number of and injuries resulting in lost visits per year is...

The Question is.....
 What is Over 1 Million Injuries?
\$ 5



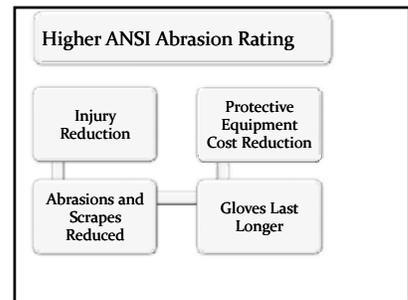
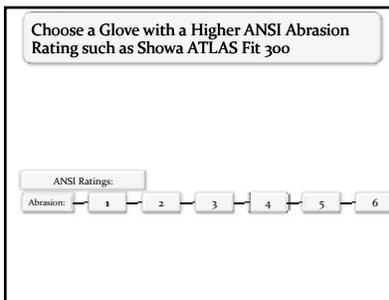


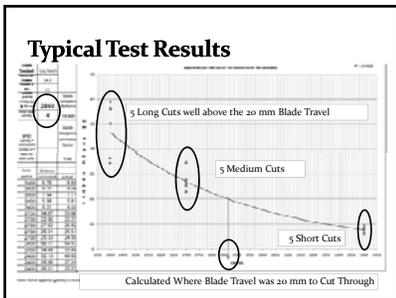
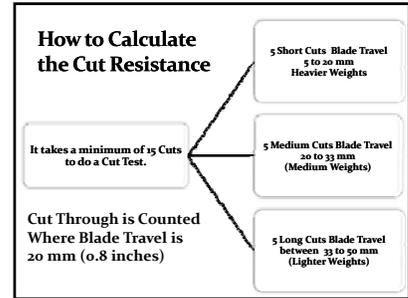
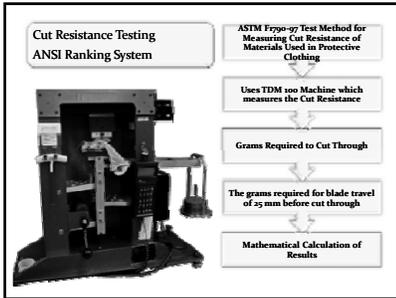
ANSI Selection Criteria	Level	Weight	Cycles
Abrasion Resistance	Level 0	500 Grams	< 100 cycles
	Level 1	500 grams	≥ 100 cycles
	Level 2	500 grams	≥ 500 cycles
	Level 3	1000 grams	≥ 1000 cycles
	Level 4	1000 grams	> 3000 cycles
	Level 5	1000 grams	> 10,000 cycles
	Level 6	1000 grams	> 20,000 cycles



ANSI Selection Criteria	Level	Weight	Cycles
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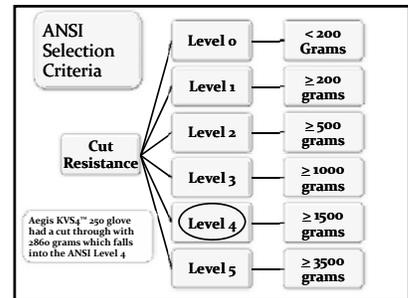
For Abrasive Jobs where Gloves Wear Out Quickly or for Scrapes and Abrasion Injuries





Cut Resistance Controversy

- ASTM F1790-97 required Blade Travel to Cut Through to be 25 mm.
- ASTM F1790-04 New Edition changed the Blade Travel to changed to 20 mm.
- ANSI Standard stayed with the 25 mm Distance from the 1997 Standard.
- We use the ASTM F1790-04 Standard with the 20 mm Blade Travel for Cut Through.



Now for the Second Question...

The Second "Don't Put Yourself in Jeopardy" Question is....

ANSI Stands for...

The Question is....

What is the American National Standards Institute.

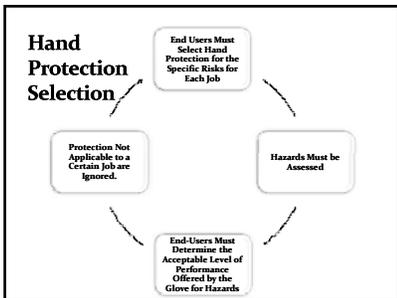
\$ 5

Now for the Third Question...
**The Third
“Don’t Put Yourself in
Jeopardy”
Question is....**

**The Highest ANSI Cut
Resistance Rating is...**

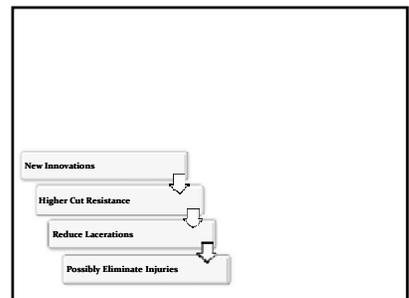
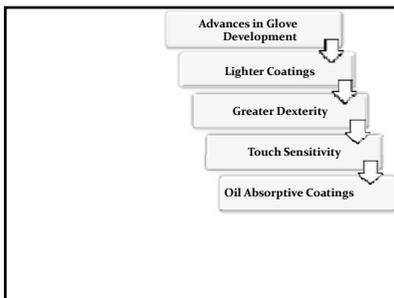
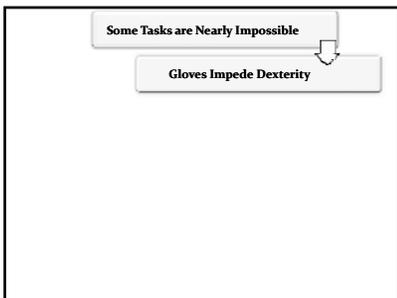
**The Question is.....
What is Level 5?

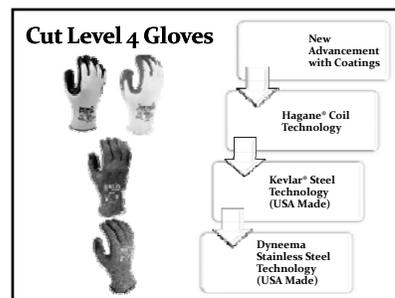
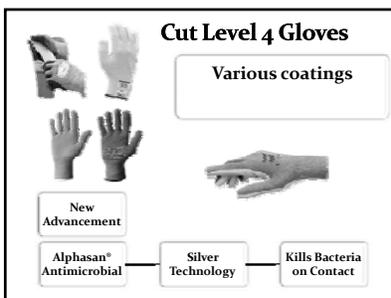
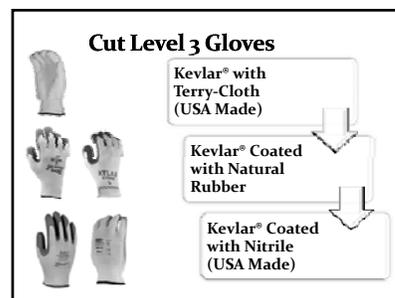
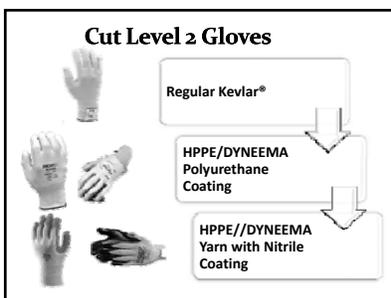
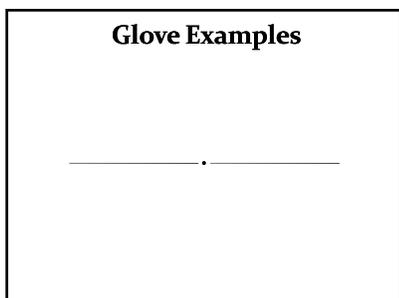
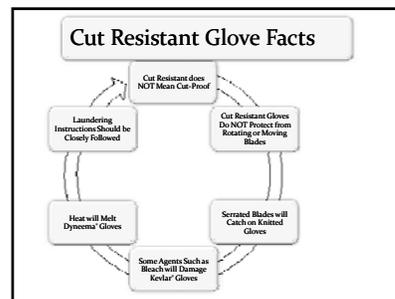
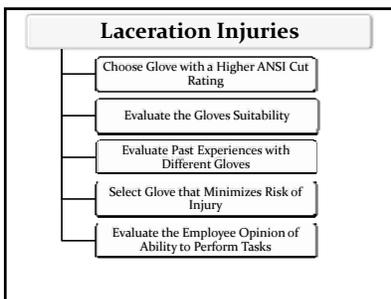
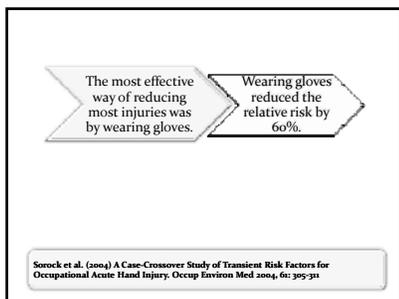
\$ 5**



What Causes Hand Injuries?

- Performing Tasks with No Gloves On
- Performing a Task You are Unaccustomed to performing
- Lack of Training
- Distractions
- Fatigue





Cut Level 5 Gloves

- Dyneema® Stainless Steel 7 Gauge (USA Made)
- Dyneema® Fiberglass (USA Made)
- New Advancement Hagane® Coil Kevlar® Steel

Newer Products Eliminate Excuses

No Need to Remove Gloves to Perform Tasks...

Tasks Where Ultimate Dexterity is Needed can be performed in Gloves!

ANSI Puncture Testing

- Utilizes EN 388: Puncture Probe
- ANSI Puncture Testing
- Force in Newtons for this probe to puncture gloves

ANSI Selection Criteria

Puncture Resistance	Level 0	< 10 Newtons
	Level 1	≥ 10 Newtons
	Level 2	≥ 20 Newtons
	Level 3	≥ 60 Newtons
	Level 4	≥ 100 Newtons
	Level 5	≥ 150 Newtons

ANSI Selection Criteria

Chemical Resistance	Level 0	< 10 Minutes
	Level 1	≥ 10 Minutes
	Level 2	≥ 30 Minutes
	Level 3	≥ 60 Minutes
	Level 4	≥ 120 Minutes
	Level 5	≥ 240 Minutes
	Level 6	≥ 480 Minutes

For additional chemical resistance information go to: www.chemrest.com

Where to find the ANSI Ratings

Ask Manufacturer for the Ratings

ANSI/ISEA 109-2005 Performance

Abrasion: 4

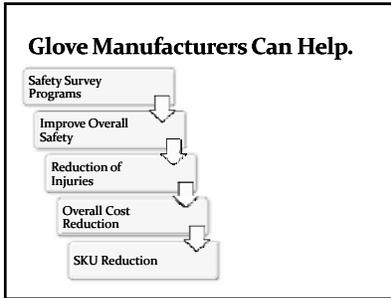
Cut Resistance: 2

Puncture Resistance: 3

ANSI Ratings are used by OSHA

When Choosing the Tools of the Trade

Gloves Protect from Unforeseen Hazards



Sentinel Survey Example: **Taking Apart Hydraulic Pump**

APPLICATION ANALYSIS

Gloves Used: Shows Current Glove

Application Description: Describes the Work Being Done

Critical Factors: Require Proper Hand Protection

Hazard Assessment: Fulfills OSHA PPE Directive

Recommended Consolidation and Cost Performance

CURRENT GLOVES				RECOMMENDED GLOVES			
Model	Material	Price	Quantity	Model	Material	Price	Quantity
Model 1	Material A	\$10	1000	Model 1	Material A	\$10	1000
Model 2	Material B	\$15	500	Model 2	Material B	\$15	500
Model 3	Material C	\$20	200	Model 3	Material C	\$20	200
Model 4	Material D	\$25	100	Model 4	Material D	\$25	100
Model 5	Material E	\$30	50	Model 5	Material E	\$30	50
Model 6	Material F	\$35	25	Model 6	Material F	\$35	25
Model 7	Material G	\$40	10	Model 7	Material G	\$40	10
Model 8	Material H	\$45	5	Model 8	Material H	\$45	5
Model 9	Material I	\$50	2	Model 9	Material I	\$50	2
Model 10	Material J	\$55	1	Model 10	Material J	\$55	1
Model 11	Material K	\$60	1	Model 11	Material K	\$60	1
Model 12	Material L	\$65	1	Model 12	Material L	\$65	1
Model 13	Material M	\$70	1	Model 13	Material M	\$70	1
Model 14	Material N	\$75	1	Model 14	Material N	\$75	1
Model 15	Material O	\$80	1	Model 15	Material O	\$80	1
Model 16	Material P	\$85	1	Model 16	Material P	\$85	1
Model 17	Material Q	\$90	1	Model 17	Material Q	\$90	1
Model 18	Material R	\$95	1	Model 18	Material R	\$95	1
Model 19	Material S	\$100	1	Model 19	Material S	\$100	1
Model 20	Material T	\$105	1	Model 20	Material T	\$105	1
Model 21	Material U	\$110	1	Model 21	Material U	\$110	1
Model 22	Material V	\$115	1	Model 22	Material V	\$115	1
Model 23	Material W	\$120	1	Model 23	Material W	\$120	1
Model 24	Material X	\$125	1	Model 24	Material X	\$125	1
Model 25	Material Y	\$130	1	Model 25	Material Y	\$130	1
Model 26	Material Z	\$135	1	Model 26	Material Z	\$135	1
Model 27	Material AA	\$140	1	Model 27	Material AA	\$140	1
Model 28	Material AB	\$145	1	Model 28	Material AB	\$145	1
Model 29	Material AC	\$150	1	Model 29	Material AC	\$150	1
Model 30	Material AD	\$155	1	Model 30	Material AD	\$155	1
Model 31	Material AE	\$160	1	Model 31	Material AE	\$160	1
Model 32	Material AF	\$165	1	Model 32	Material AF	\$165	1
Model 33	Material AG	\$170	1	Model 33	Material AG	\$170	1
Model 34	Material AH	\$175	1	Model 34	Material AH	\$175	1
Model 35	Material AI	\$180	1	Model 35	Material AI	\$180	1
Model 36	Material AJ	\$185	1	Model 36	Material AJ	\$185	1
Model 37	Material AK	\$190	1	Model 37	Material AK	\$190	1
Model 38	Material AL	\$195	1	Model 38	Material AL	\$195	1
Model 39	Material AM	\$200	1	Model 39	Material AM	\$200	1
Model 40	Material AN	\$205	1	Model 40	Material AN	\$205	1
Model 41	Material AO	\$210	1	Model 41	Material AO	\$210	1
Model 42	Material AP	\$215	1	Model 42	Material AP	\$215	1
Model 43	Material AQ	\$220	1	Model 43	Material AQ	\$220	1
Model 44	Material AR	\$225	1	Model 44	Material AR	\$225	1
Model 45	Material AS	\$230	1	Model 45	Material AS	\$230	1
Model 46	Material AT	\$235	1	Model 46	Material AT	\$235	1
Model 47	Material AU	\$240	1	Model 47	Material AU	\$240	1
Model 48	Material AV	\$245	1	Model 48	Material AV	\$245	1
Model 49	Material AW	\$250	1	Model 49	Material AW	\$250	1
Model 50	Material AX	\$255	1	Model 50	Material AX	\$255	1
Model 51	Material AY	\$260	1	Model 51	Material AY	\$260	1
Model 52	Material AZ	\$265	1	Model 52	Material AZ	\$265	1
Model 53	Material BA	\$270	1	Model 53	Material BA	\$270	1
Model 54	Material BB	\$275	1	Model 54	Material BB	\$275	1
Model 55	Material BC	\$280	1	Model 55	Material BC	\$280	1
Model 56	Material BD	\$285	1	Model 56	Material BD	\$285	1
Model 57	Material BE	\$290	1	Model 57	Material BE	\$290	1
Model 58	Material BF	\$295	1	Model 58	Material BF	\$295	1
Model 59	Material BG	\$300	1	Model 59	Material BG	\$300	1
Model 60	Material BH	\$305	1	Model 60	Material BH	\$305	1
Model 61	Material BI	\$310	1	Model 61	Material BI	\$310	1
Model 62	Material BJ	\$315	1	Model 62	Material BJ	\$315	1
Model 63	Material BK	\$320	1	Model 63	Material BK	\$320	1
Model 64	Material BL	\$325	1	Model 64	Material BL	\$325	1
Model 65	Material BM	\$330	1	Model 65	Material BM	\$330	1
Model 66	Material BN	\$335	1	Model 66	Material BN	\$335	1
Model 67	Material BO	\$340	1	Model 67	Material BO	\$340	1
Model 68	Material BP	\$345	1	Model 68	Material BP	\$345	1
Model 69	Material BQ	\$350	1	Model 69	Material BQ	\$350	1
Model 70	Material BR	\$355	1	Model 70	Material BR	\$355	1
Model 71	Material BS	\$360	1	Model 71	Material BS	\$360	1
Model 72	Material BT	\$365	1	Model 72	Material BT	\$365	1
Model 73	Material BU	\$370	1	Model 73	Material BU	\$370	1
Model 74	Material BV	\$375	1	Model 74	Material BV	\$375	1
Model 75	Material BW	\$380	1	Model 75	Material BW	\$380	1
Model 76	Material BX	\$385	1	Model 76	Material BX	\$385	1
Model 77	Material BY	\$390	1	Model 77	Material BY	\$390	1
Model 78	Material BZ	\$395	1	Model 78	Material BZ	\$395	1
Model 79	Material CA	\$400	1	Model 79	Material CA	\$400	1
Model 80	Material CB	\$405	1	Model 80	Material CB	\$405	1
Model 81	Material CC	\$410	1	Model 81	Material CC	\$410	1
Model 82	Material CD	\$415	1	Model 82	Material CD	\$415	1
Model 83	Material CE	\$420	1	Model 83	Material CE	\$420	1
Model 84	Material CF	\$425	1	Model 84	Material CF	\$425	1
Model 85	Material CG	\$430	1	Model 85	Material CG	\$430	1
Model 86	Material CH	\$435	1	Model 86	Material CH	\$435	1
Model 87	Material CI	\$440	1	Model 87	Material CI	\$440	1
Model 88	Material CJ	\$445	1	Model 88	Material CJ	\$445	1
Model 89	Material CK	\$450	1	Model 89	Material CK	\$450	1
Model 90	Material CL	\$455	1	Model 90	Material CL	\$455	1
Model 91	Material CM	\$460	1	Model 91	Material CM	\$460	1
Model 92	Material CN	\$465	1	Model 92	Material CN	\$465	1
Model 93	Material CO	\$470	1	Model 93	Material CO	\$470	1
Model 94	Material CP	\$475	1	Model 94	Material CP	\$475	1
Model 95	Material CQ	\$480	1	Model 95	Material CQ	\$480	1
Model 96	Material CR	\$485	1	Model 96	Material CR	\$485	1
Model 97	Material CS	\$490	1	Model 97	Material CS	\$490	1
Model 98	Material CT	\$495	1	Model 98	Material CT	\$495	1
Model 99	Material CU	\$500	1	Model 99	Material CU	\$500	1
Model 100	Material CV	\$505	1	Model 100	Material CV	\$505	1
Model 101	Material CW	\$510	1	Model 101	Material CW	\$510	1
Model 102	Material CX	\$515	1	Model 102	Material CX	\$515	1
Model 103	Material CY	\$520	1	Model 103	Material CY	\$520	1
Model 104	Material CZ	\$525	1	Model 104	Material CZ	\$525	1
Model 105	Material DA	\$530	1	Model 105	Material DA	\$530	1
Model 106	Material DB	\$535	1	Model 106	Material DB	\$535	1
Model 107	Material DC	\$540	1	Model 107	Material DC	\$540	1
Model 108	Material DD	\$545	1	Model 108	Material DD	\$545	1
Model 109	Material DE	\$550	1	Model 109	Material DE	\$550	1
Model 110	Material DF	\$555	1	Model 110	Material DF	\$555	1
Model 111	Material DG	\$560	1	Model 111	Material DG	\$560	1
Model 112	Material DH	\$565	1	Model 112	Material DH	\$565	1
Model 113	Material DI	\$570	1	Model 113	Material DI	\$570	1
Model 114	Material DJ	\$575	1	Model 114	Material DJ	\$575	1
Model 115	Material DK	\$580	1	Model 115	Material DK	\$580	1
Model 116	Material DL	\$585	1	Model 116	Material DL	\$585	1
Model 117	Material DM	\$590	1	Model 117	Material DM	\$590	1
Model 118	Material DN	\$595	1	Model 118	Material DN	\$595	1
Model 119	Material DO	\$600	1	Model 119	Material DO	\$600	1
Model 120	Material DP	\$605	1	Model 120	Material DP	\$605	1
Model 121	Material DQ	\$610	1	Model 121	Material DQ	\$610	1
Model 122	Material DR	\$615	1	Model 122	Material DR	\$615	1
Model 123	Material DS	\$620	1	Model 123	Material DS	\$620	1
Model 124	Material DT	\$625	1	Model 124	Material DT	\$625	1
Model 125	Material DU	\$630	1	Model 125	Material DU	\$630	1
Model 126	Material DV	\$635	1	Model 126	Material DV	\$635	1
Model 127	Material DW	\$640	1	Model 127	Material DW	\$640	1
Model 128	Material DX	\$645	1	Model 128	Material DX	\$645	1
Model 129	Material DY	\$650	1	Model 129	Material DY	\$650	1
Model 130	Material DZ	\$655	1	Model 130	Material DZ	\$655	1
Model 131	Material EA	\$660	1	Model 131	Material EA	\$660	1
Model 132	Material EB	\$665	1	Model 132	Material EB	\$665	1
Model 133	Material EC	\$670	1	Model 133	Material EC	\$670	1
Model 134	Material ED	\$675	1	Model 134	Material ED	\$675	1
Model 135	Material EE	\$680	1	Model 135	Material EE	\$680	1
Model 136	Material EF	\$685	1	Model 136	Material EF	\$685	1
Model 137	Material EG	\$690	1	Model 137	Material EG	\$690	1
Model 138	Material EH	\$695	1	Model 138	Material EH	\$695	1
Model 139	Material EI	\$700	1	Model 139	Material EI	\$700	1
Model 140	Material EJ	\$705	1	Model 140	Material EJ	\$705	1
Model 141	Material EK	\$710	1	Model 141	Material EK	\$710	1
Model 142	Material EL	\$715	1	Model 142	Material EL	\$715	1
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Model 145	Material EO	\$730	1	Model 145	Material EO	\$730	1
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Model 149	Material ES	\$750	1	Model 149	Material ES	\$750	1
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Model 155	Material EY	\$780	1	Model 155	Material EY	\$780	1
Model 156	Material EZ	\$785	1	Model			