Original date of issue 8-27-62.

Operating Division PRODUCT PROCEDURE	"PROJECT Q.D." JOINT COMPOUND	No. 61-2-29-A Date 11-15-62 Page 1 of 2
Approved:	FORMULA GB-52A	Cancels Page 1 Dated 8-27-62

Gypsum to manufacture "Project Q.D." Joint Compound for field trials and shipments as directed by Dept. #144. Specifications as follows:

Finished Product Tests
Consistency - 55 to 58 cc for 400 ± 20 Brabender at 77° F
pH - 8.6 to 8.9 at 77° F, 15 min. after mixing
Bond - 4 minimum (75° F - 50% R. H.)
Color - Natural
Set time spec. - 4 to 5 hours with Vicat needle in Dixie cup at 70-75° F. ** Blend in retarder or accelerator to adjust proper set time.

** When determining set, the temperature must not exceed 75° F.

FORMULA	GB-52A
Air Separated Hydrocal	to make 100%
JM7RF1 Asbestos (3.5-4.5 % in lab batches)	about 4.0% as required for normal consistency
Shawinigan GP-702.	7.0%
Vancide 51-Z	0.15
Mica JC	0.7 formula V
Ser-X	15.0
Natrosol SG-62	0.5
Santicizer #9	0.7
Commercial Retarder	about 0.05 (adjust retarder to give proper set)
Potassium Sulfate	0.1
Tributyl phosphate: Neutralizer 50:50*	0.203

* Do Not use Sterox in this liquid mix as normally done in casein compounds.

PLAINTIFF'S EXHIBIT
tabbies
USG-454

No. 61-2-23-X Date Page 2	CONFIDENTIAL USG JOINT COMPOUND - TOPPING (FE-294 D)
Cancels NEW Dated	

FORMULA , Cont'd

Note 1: Consistency Adjustment

Attagel 40
Per Formula 1.5%
Range LIMIT 1.0% - 2.0%
.5% change yields @ 2cc/100 gr. change

CMC-4H1 (to be used only if Attagel 40 cannot produce desired consistency)
Per Formula .5%
Range LIMIT .4% - .6%
.1% change yields @ 3cc/100 gr. change

Note 2: Gypsum to use Stonelite, Midway to use Quincy #3.

Note 3: May be left out for natural white color.

DP007 1757

9118B	"PROJECT Q.D." JOINT COMPOUND FORMULA GB-52A	No. 61-2-29-A Date 11-15-62 Page 2 of 2 Cancels Page 2 Dated 8-27-62

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RAW MATERIALS

Mica JC, Ser-X, M350 Sericite and Tributyl phosphate are present joint cement grade materials under 61-2-22. Additional materials are:

1. Vancide 51-Z (R.T. Vanderbilt) per bulletin 6-100-1
2. Shawinigan GP-702 Resin — Shawinigan Resins Corp. Springfield, Mass.
3. Natrosol SG-62 (-60 mesh) — Hercules Powder Co. Hopewell, Virginia
4. Santicizer 9 (-60 mesh) — Monsanto Chem. Co. St. Louis, Mo.
5. Potassium Sulfate (type 2) — Bulletin 6-99-2
   NF-VII Powder — Mallinckrodt Chem. Co.
   Must be screened through 60 mesh screen before use for good dispersion to prevent localized setting!
6. Oakfield Commercial Retarder — Bulletin 53-1-10
   Not necessary for receiving plants to test.
7. Hydrocal Air-Separated — Bulletin 69-2-1
   Southard — Fort Dodge
   B-Base (white) — A-Base (grey)

Consistency 42-44cc

Vicat Set	20 min.	minimum
Fineness	/ 30	0.0
	-100	99.98
	-325	90.0

A Processing - In normal manner used for manufacture of joint compound except a cleanout charge of carbonate filler must be run before the manufacture of "Q.D." compound. Even small amounts of casein joint compound will severely contaminate the "Q.D." compound.

A Packaging - per Dept. #144.

A Shipment - To Chicago and Lakeland districts unless otherwise specified by Dept. #144.

This bulletin expires 9-1-63.

DPCC9 0430

SPECIAL BULLETIN

Operating Division PRODUCT PROCEDURE Approved: 9/18/B	"PROJECT Q.D." JOINT COMPOUND FORMULA GB-52A	No. 61-2-29-A Date 8-27-62 Page 1 of 2 Cancels Dated NEW

Gypsum and South Gate to make up to 10,000 lbs. of "Project Q.D." Joint Compound for field trials and other subsequent shipments as directed by Department #144. Specifications as follows:

FORMULA	GB-52A
Air Separated Hydrocal	to make 100%
JM7RF1 Asbestos (3.5-4.5% in lab batches)	about 4.0% as required for normal consistency
Shawinigan GP-702	7.0%
Vancide 51-Z	0.15
Mica JC	0.7 formula V
Ser-X*	15.0
Natrosol SG-62	0.5
Santicizer #9	0.7
Commercial Retarder	about 0.05
Potassium Sulfate or Terra Alba	about 0.1
Tributyl phosphate	0.2

* At South Gate use M350 Sericite

FINISHED PRODUCT TESTS

Consistency - 55 to 58cc for 400 g Brabender at 77°F
pH - 8.6 to 8.9 at 77°F, 15 minutes after mixing
Bond - 4 Minimum (75°F-50% R. H.)
APPLICATION PROPERTIES - per std. sample from Research.
Color - Natural
Set Time Specs. - 4 to 5 hours with Vicat Needle in Dixie Cup
* Blend in retarder or accelerator to adjust to proper set time

PROCESSING AND PACKAGING

Blend and micropulverize in normal manner. Pack in plain P-A-T type bags (asphalt lined). No special marking other than the normal code.

USPCO 0431