

SPECIFICATION
MDT PANELS
3740.132-EN 513
05/21/99

SPECIFICATION FOR SANDWICH PANELS
B AND C LAYER MDT SUPPORTS
D-ZERO UPGRADE
FORWARD MUON TRACKING SYSTEM

ENGINEERING NOTE
3740.132-EN 513

Written by Tony Levand

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APPLICATION

The panels will be used to fabricate B and C layer MDT octant supports. The octant support arrangements can be seen on the accompanying figures, Fig 1 and Fig 2. Currently we are considering buying 60 inch wide rectangular panels and cutting and splicing them into the octant shape. Proposals for octant panels cut to size and panels of different width will be considered.

DESCRIPTION

Honeycomb Panels.

Core: Aluminum honeycomb .75 thick and cell size between .375 to .5 inch.

Skins: .040 thick Aluminum alloy sheet 3003-H14 or 5052-H32.

Adhesive: epoxy

SIZE and QUANTITY

Panel sizes are listed in Table 1. Other sizes may be proposed. Total area is approximately 10,000 ft². Length and width tolerance is ± 0.060 inches. The preliminary panel layout for B and C layers can be seen in figures 1 and 2

TABLE 1

C LAYER PANEL DIMENSIONS (inches)			
QUANTITY	LENGTH	WIDTH	THICKNESS
48	163	60	0.83
24	112	60	0.83
16	102	60	0.83
B LAYER PANEL DIMENSIONS			
QUANTITY	LENGTH	WIDTH	THICKNESS
24	149	60	0.83
24	139	60	0.83
8	102	60	0.83
12	96	60	0.83
8	92	60	0.83

FLATNESS

The panel flatness must be better than .080 inches. The flatness will be measured by supporting the panel in a vertical position at 3 points and surveying the distance from the panel surface to the reference plane. Measuring the flatness of the panel horizontally

on a flat table does not fulfill this requirement. Panels that do not meet the flatness specification will be rejected.

SAMPLE PANELS

Five sample panels must be submitted to qualify the vendor. The sample panels will be measured for flatness to determine the vendor's process capability.

DELIVERY

Delivery of the production panels should start by mid-July 1999. Partial shipments will be accepted. Sample panels are expected in June.

THICKNESS

The panel thickness is $.83 \pm .015$ inches.

EDGES

The panel skins should not be skewed by more than 0.060 inches. Edges are open.

ENVIRONMENT

The environment is indoors, approximately 70° F.

APPENDIX 1

SUGGESTED VENDORS

Newcourt, inc.	Graphic Parts International, inc.
Architectural Specialty Products	Tech Lam
Una-Clad	Pacific Panels, inc.
Integrated Technologies, inc.	Panel Tec
Mantech	Plascor

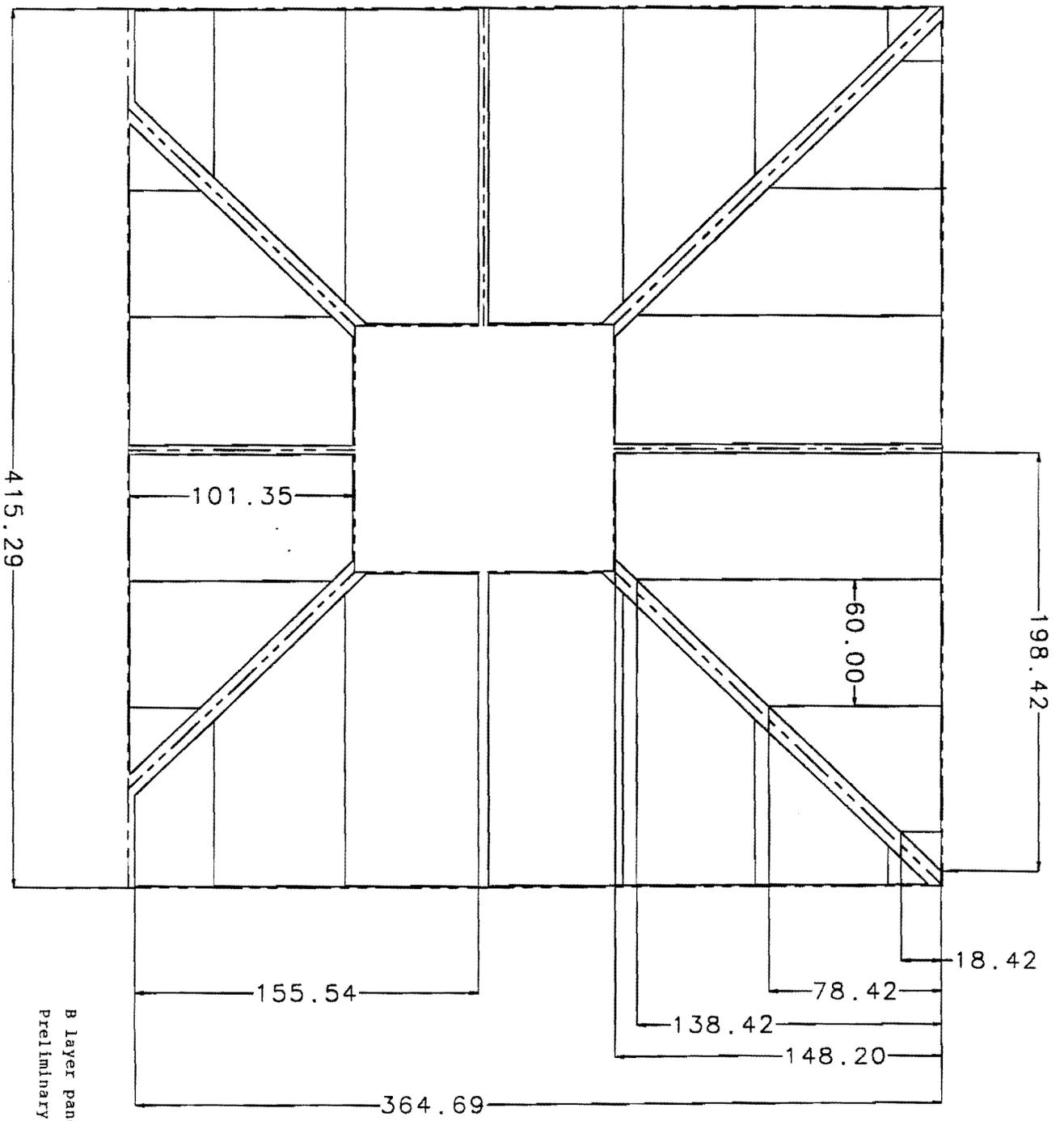
VENDOR SELECTION

The vendor selection will be based on product performance, delivery and price. The vendor will be qualified by submitting sample panels that pass the flatness criteria. We prefer a vendor capable of producing panel sizes listed in Table 1, this will minimize the amount of assembly splicing work here by Fermilab. Not all vendors capable of making flat panels can make these sizes. Other panel sizes will be considered based on flatness, delivery and cost. The project manager will select a vendor based on what is best for the project and not solely on lowest bid.

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TABLE of CONTENTS

APPLICATION	1
DESCRIPTION	1
SIZE AND QUANTITY	1
FLATNESS	1
SAMPLE PANELS	2
THICKNESS	2
EDGES	2
ENVIRONMENT	2
SUGGESTED VENDORS	Appendix 1
VENDOR SELECTION	Appendix 1
LIST OF TABLES AND FIGURES	
TABLE 1 - Panel Sizes	1
FIGURE 1 – B octants layout	4
FIGURE 2 – C octants layout	5



B Layer panel layout
Preliminary

Figure 2

