



WIPROC

THE WESTERN INDIA PLYWOODS LIMITED

Technical Literature

Anexure No. VI

WOOD BASED LAMINATED PLASTIC FOR PRESS FORMING TOOLS & OTHER APPLICATIONS

WIPROC is a heavy-duty industrial Laminate, manufactured by WIP. It is tough like rock and has got excellent resistance to moisture, climatic changes, wear and tear, etc., etc.

WIPROC's density is only half that of Aluminium and one-fifth that of Steel, but its strength : weight ratio is more than half that of Steel. These properties are acquired by adjusting the ratio of wood content to that of synthetic resin content in the finished wood based plastic laminate. A special type of Phenolic resin is used for this tooling grade material.

WIPROC is a unique and versatile engineering material which has got superb Physical & Mechanical characteristics combined with dimensional stability. It can also be machined to close tolerances with ease.

TYPES & GRADES:

WIPROC in general is manufactured in two types, as indicated below :

Type 1 : This represents a laminate where all the laminations have grains in the same direction.

Type 2 : This represents a laminate where alternative laminations have

grain directions at right angles to each other.

NOMENCLATURE :

The following nomenclature system is usually used for the identification of various grades of WIPROC.

WIPROC is usually denoted with the letters "WR". This comes first in the series.

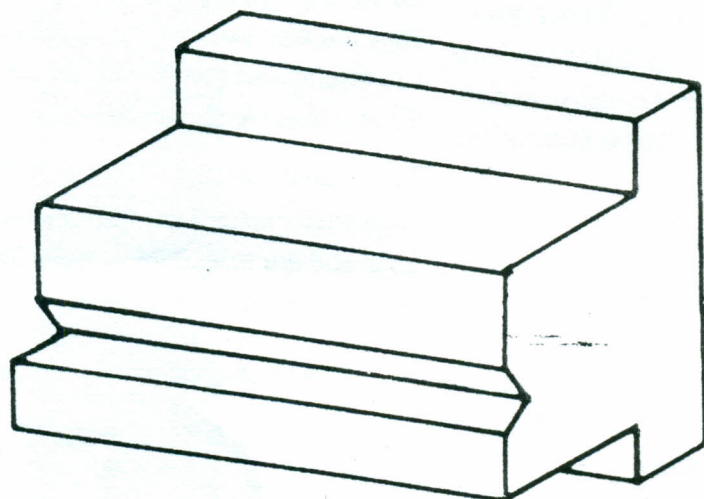
The density follows after the symbol "WR".

The grain direction is indicated soon

after the density.

For example : Grade WR(HD) 2 represents a grade of WIPROC which has got specific gravity of 1.32 and the grain direction of alternate laminations at right angles to each other. This is the special grade which finds application in aircraft, automobile and other general engineering industries.

Grade WR (LD) 2 represents a grade of WIPROC which has got a specific gravity of 1.0 and the grain direction of alternate laminations perpendicular



Properties	Unit	Grade WR (HD) 2	Grade WR (LD) 2
Specific Gravity	-	1.25 - 1.30	0.90 - 1.10
Static Bending Strength. Minimum along the grain	Kg/Cm2	1400	900
Tensile Strength Minimum	Kg/Cm2	700	500
Compression Strength :			
(a) Flatwise: Minimum	"	1800	1150
(b) Endwise: Minimum	"	1050	700
Shear Strength: Minimum			
(a) Parellel to grain & Laminae (Endwise)	"	350	200
(b) Perpendicular to Grain (Edgewise)	"	250	150
Impact Strength (Izod Test): Minimum			
(a) Perpendicular to Laminate : and grain direction of top surfaces	KGM	0.60	0.30
(b) Perpendicular to Laminated face	"	0.40	0.20

to each other.

STANDARD SIZES :

WIPROC is generally manufactured from 6 mm upto 100 mm thickness in all the grades. Standard sizes are 4'X3' and 3'X3'. It is also manufactured in sizes upto 8'X4' in thicknesses upto 38mm.

APPLICATIONS

WIPROC is A Wood Based Plastic Laminate which finds extensive application in the tooling industry where thin gauge Aluminum, Aluminium Alloys and Steel are used.

WIPROC is recommended for pressforming tools for Aluminium Alloy and thin Steel sheets and also for

drilling jigs and Router Templates.

Wood Based Plastic Laminates have been very successfully used for the manufacture of press forming tools. They are also used for the manufacture of templates for checking the profile of finished formations, etc., etc.

Tools manufactured from Wood Based Laminated Plastics offer a unique material and are extensively used in the aircraft industry.

In short, it could be stated that :

(a) WIPROC has excellent cutting and machining characteristics with high speed wood working machines.

(b) It has the ability to with stand forming of light alloy sheets, when blocks manufactured from WIPROC WR (HD)2 are subjected to impact loads it will not develop cracks, or signs of delamination, brittleness or indentation.

For further information, Please contact :



THE WESTERN INDIA PLYWOODS LIMITED

P.O. Baliapatam

Cannanore District - 670 010

Kerala, India.

Telephone : 778151 / 778152.

Telex : 805-201-WIP IN. Fax : 497-78181