FACTS ON ASBESTOS

1. WHAT IS ASBESTOS?

a. Asbestos is a naturally occurring mineral found in underground rock formations. For commercial purposes, it is recovered by mining and rock crushing. Fine particles, invisible to the eye, are present in the air and water everywhere. All of us may be inhaling them and ingesting them through drinking water every day for our life times without any adverse effect on health.

b. White asbestos (chrysotile variety) constitutes 98% of world production for its commercial use. Indian asbestos cement sheet and pipe manufacturers import all their requirements of chrysotile fibres from Canada, Brazil, Russia, Zimbabwe and Kazakhstan for production of AC sheets and pipes. Asbestos is also mined in India, but quantity and quality-wise it is of no relevance to our asbestos cement production.

c. Asbestos fibre, (composed mainly of magnesium and silica), is a great reinforcing agent. While its tensile strength is greater than steel, it has other rare and highly valued fire retardant, chemical resistant and heat insulating qualities. **In fact it is a magic mineral and no other substitute can match its properties.**

2. WHAT ARE ASBESTOS CEMENT (AC) PRODUCTS ?

a. AC products are made with a mix of chrysotile fibres (about 8-9%), cement and other raw materials. Over 90% of asbestos fibre imports of India go into AC sheet and pipe production.

a. AC Sheets have been used In India for 70 years. Being weather-proof and corrosion resistant, these sheets are practically ageless and maintenance free, whereas metal sheets corrode and deteriorate with age and exposure. (See chart for comparison).

b. AC Sheets have also proven to be the most cost effective, easy-to-install, strong and durable roofing material for warehouses, factories, low-cost housing, and practically , any structure needing a roof. Apart from India, Russia, China, Thailand, Brazil and Japan are some of the largest users of AC Sheets.

c. AC sheets and pipes, being corrosion and erosion-free, once properly laid and jointed, need no maintenance or replacement. They are also very cost effective.

d. AC products, which consume low energy in manufacture and do not in any way deplete the natural resources, meet the needs of the country in its developing economy in the context of rapidly rising population, and limited resources.

e. AC products are manufactured under (ISI) license strictly conforming to the standards of Bureau of Indian Standards. IS 459/1992 for Corrugated Roofing Sheets, IS 2098/1997 for Flat Sheets and IS 1626 (Part 111)/1994 for Roofing Accessories.

EXPLAIN THE NEGATIVE REPORTS ON ASBESTOS :

a) The bias against the use of asbestos in a few countries is due to the adverse Western media coverage relating to altogether different usages of asbestos in the past in those countries i.e. sprayed-on asbestos and friable low-density asbestos insulation used under uncontrolled conditions *at* that time due lo lack of adequate scientific: knowledge. Though these particular usages have since been discontinued, the claims relating to the past keep appearing in the media resulting in general confusion. (there is no such usage in India)

b) But, once the scientific research into the risks of asbestos was set in motion, development and installation of pollution control systems took place, enabling the asbestos mining and asbestos cement Industries to maintain safe and acceptable levels of dust pollution at the work places.

c) Once the safety fears were defined, the Governments have stepped in and laid down pollution control regulations and the mechanisms to enforce their compliance. Compliance with these regulations and standards assure the workers in asbestos cement Industries a risk-free environment.

For the consumer, the Asbestos Cement products were always safe.

4. WHAT IS THE SITUATION IN INDIA?

a) In India, only the chrysotile variety of asbestos, which is considered safe, is used in asbestos-cement products, namely, sheets and pipes. The fibres are mixed and bonded with cement and other raw material, with no chance of escaping into the atmosphere.

b) Asbestos cement products are being manufactured in India since 1934. Workers in asbestos-cement product industry in India have not had any adverse health effects in spite of decades of service, there being no risk of exposure to asbestos dust because of pollution 'control measures installed in the factories. Health of the workers is closely monitored as per directives and regulations of the government agencies.

c) There is no risk whatsoever in living or working under the AC roof, as asbestos fibres are bonded (locked in) with cement and cannot get released in to the atmosphere.

d) Transportation of drinking water in AC pipes is absolutely safe as confirmed by the World Health Organization. Ingested asbestos if any does not pose any health risk.

e) Indian climatic conditions never required the type of asbestos spraying and insulation, at one time common in the West. Thus, the health hazards and risks associated with the past asbestos fibre usage in the western countries, have nothing to do with the asbestos products or applications in India.

f) "In India Asbestos Cement sheets have been extensively used by Indian Railways for the last 50 years to provide the safest form of roofing to the thousands of Railway Platforms across the country where over 1 crore people step everyday. It is noteworthy that AC Sheets have withstood the test of time with no reported risk/casualty to the Indian traveler nor has there been any adverse effect on the local environment.

Another major consumption of AC Sheets is in the roofing of Food Corporation of India godowns, where millions of tons of food grains are stocked. The above two examples are testimony to the fact that Asbestos Sheets are absolutely safe to use. '

g) It is worth noting that India uses only about 6 to 7% of the asbestos produced in the world. (The rest is used in other countries, where obviously, it is accepted as safe)

5. WHAT ARE THE POLICIES OF GOVERNMENT OF INDIA ON ASBESTOS ?

a) The Government of India has constituted various expert committees to study the asbestos industry and having been satisfied that asbestos does not actually pose a health risk to the workers at the manufacturing plants so long as the work place pollution controls were in place, or to the public who use the asbestos-cement products, the Ministry of Industry, Government of India, in July 1997, has in fact de-licensed the industry, allowing any person to set up a factory without the need for an industrial license from the ministry.

b) The Ministry of Environment, Govt. of India, vide its Gazette Notification dated 20.1.2000 has deleted asbestos from the list of “hazardous chemicals".

c) The Ministry of Industry, Ministry of Labour, Ministry of Environment, Ministry of Consumer Affairs, Bureau of Indian Standards, et al have laid-down regulations, standards, guidelines and recommendations specific to the asbestos industry, in line with

those of International Labour Organization, World Health Organization and other bodies. The Central and State Pollution Control Boards, Labour and Factory Inspectors also regularly monitor the factories' compliance with the mandatory safety standards and pollution control levels.

d. The latest expert committee reviews of Ministry of Environment, Central Pollution Control Board, and Ministry of Consumer Affairs and Bureau of Indian Standards completed in the year 2002-03 have concluded that the asbestos-cement Industry can operate in a safe environment under the laid-down pollution control levels.

6. ARE THERE ANY COURT RULINGS ON ASBESTOS USAGE? '

a) Concerns caused by the past medical findings in the Western countries, when asbestos applications were indiscriminate and bereft of pollution controls, resulted not only in anti asbestos media campaign and litigation, but also led some environmental activists and NGOs approaching the courts for effective remedies.

b) The Supreme Court of India has, in Jan 1995, disallowed one such appeal and permitted the continued usage of asbestos and, asbestos products, as the petitioners failed to. produce evidence to prove that asbestos-based items or their manufacturing process in India were dangerous to health.

c) After considering a strong case by the powerful Environmental Protection Agency, the United States Court of Appeals has, in 1991, rejected an appeal for phasing out asbestos cement and other asbestos based products in USA, again for lack of evidence to warrant such a prohibition.

d) Most recently in June 2001, the Supreme Court in Brazil has also rejected a petition by some activists for ban of asbestos cement production. Brazil, incidentally is one of the largest producers and users of asbestos.

7. ARE ASBESTOS AND ASBESTOS CEMENT PRODUCTS STILL USED IN OTHER COUNTRIES?

a. There is no ban on production or usage of asbestos cement sheets or pipes in USA and Canada and 95% of the other world nations. Less than a dozen countries have regulations restricting use of asbestos based products most of which had, in any case, been phased out much earlier. It is relevant to note that these countries add up to 5 or 6% of the world nations.

b. The USA still imports AC pipes for water transportation.

c. Most recently in 2001, Canada has reintroduced asbestos to make asphalt asbestos compound for re-paving of the roads, for more flexibility, resistance and for reducing fissures on the road surface.

d. As said earlier, even today, Russia, China, Japan, Thailand, India, Brazil and Indonesia are among the largest users of AC sheets and other products.

e). About 94% of ChrysotiIe Asbestos produced worldwide is consumed by countries other than India. India uses barely 6 to 7% of world's asbestos fibre production, This goes to prove that AC sheet and pipe production and usages of these products are very much prevalent in most of the world.

f) This asbestos production and usage in most countries confirms that these products do not cause the health problems as propagated by some zealots and industrial competitors. There are activists everywhere who pursue some issue or the other, often with inadequate research or deliberately fed misinformation for their personal gains, Asbestos is merely one such issue, which 95% of the world nations chose to ignore.

8. ARE WORKMEN INSTALLING AC ROOF AT RISK OF EXPOSURE TO ASBESTOS?

a) No certainly not, when the recommended work practices are followed while on the job.

b) A typical study was conducted on handling, cutting & installation of asbestos cement roofing sheets. The typical test results show the fibre concentration in air sampling is found to be far below the level of 0.1f cc.

9. IS IT DANGEROUS TO LIVE OR WORK UNDER AN ASBESTOS CEMENT ROOF?

a) Not at all. There is no risk, whatsoever, to health as the asbestos fibres are locked-in and bound with cement and there is no possibility of these fibres escaping (from the products) into the ambient air.

b) Several measurements have confirmed this fact.

10. IS PUBLIC AT RISK DUE TO WEATHERING OF ASBESTOS CEMENT PRODUCTS ?

a) . Asbestos cement sheets do not decay or rot because of the inherent properties of asbestos fibre and cement. These do not crumble due to continued exposure to the elements or due to age. There is no evidence that people living under asbestos-cement roof, or the general public living around asbestos cement-roofed buildings or factories producing asbestos cement products have been specifically affected in any manner.

b) In fact studies have concluded that increase in asbestos dust concentration in the near vicinity of asbestos cement roofing is so insignificant that it cannot be detected even by a scanning electron microscope.

11. IS IT WRONG TO USE AC PIPES FOR CARRYING DRINKING WATER?

Even the World Health Organization has approved the usage of AC pipes for drinking water. As stated earlier, the most health conscious USA uses AC pipes for drinking water transportation.

12.WHAT IS THE LATEST THAT IS HEARD IN THE WEST ABOUT' ASBESTOS?

a) The Times, London, 18 Sept 2001, quoting Mr. Richard Wilson, Professor .of Physics at Harward University in Cambridge, Massachusetts, USA, reported that **"asbestos is the best Insulator we know of, and not to use it because of hysterical public health reasons, is absurd".**

b) The Wall Street Journal, USA, 19 October 2001, in an article captioned "EPA comes clean on Asbestos", reported "Faced with a public health scare the EPA (Environmental Protection Agency of the USA) decided to cough up the truth about asbestos. Its officials bent over backward to get out the message that asbestos was harmful only if breathed at high levels and over sustained periods of Time" The north Tower contained 40 floors of asbestos. The EPA repeated that the public was not at any real risk from the asbestos released from the collapse of the WTC north tower and swirling around downtown Manhattan. .

c) After Sept 11, 2001 collapse of WTC towers, Prof. Art Robinson, founder of the Oregon Institute of Science and Medicine, said **"asbestos was an early victim of junk science and enviro-fear propaganda"**, Had the (top floors) contained Asbestos, the towers would have stood for four hours, saving 5000 lives.

d) The USA Geological Survey Fact Sheet FS 12 -1 of March 2001 reports "There have been thousands of applications for asbestos. Most were viewed as practical solutions to difficult problems. For instance, (I) asbestos helped make the braking systems in automobiles much more dependable, (II) It enabled the production of inexpensive cement-based water supply pipes (iii) Chrysotile (asbestos) is also mined in the US. One firm in California, accounted for all US chrysotile production in 1999.

e) La Presse, Canada, May 18,2001 has quoted Katherine Glasson, press officer for the Minister of Transport as having said "this material is not dangerous". The paper also said" the Ministery of Transport estimates to use 1,00,000 tons of asbestos-asphalt for the repaving of its road network this year as compared to 17,000 tons last year.

SOME POPULAR MISCONCEPTIONS

	MYTHS	**FACTS**
1.	Asbestos cement is dangerous material	Asbestos cement is completely safe. It is not corrosive, reactive, ignitable or toxic.
2.	Inhalation of even one fibre of asbestos is harmful.	Thousands of asbestos fibres, invisible, are inhaled by us everyday from natural resources, without any harm. Asbestos cement has only 8-9% asbestos fibre that is bound and cannot be released into air.
3.	Asbestos cement water pipes cause colonic carcinoma and other diseases.	Asbestos fibres in water are ingested without any harm whatsoever. Therefore the AC water pipes pose no threat.
4.	Developed Countries have banned asbestos cement products. Only poor Countries need it.	Most developed countries still use Asbestos cement products.
5.	Asbestos cement production is banned in the USA	The US Court of Appeals rejected a proposed ban on scientific grounds. Asbestos-cement products are not banned in the USA

S.No. Characteristics A C Sheets Corrugated Galva- Aluminium Sheets
Nised Iron Sheets

1.	Life Span (Years)	50 (Min.) Non-Corrosive	10-15	N.A.
2.	Maintenance	Nil	Every 3-5 years	Nil
3.	Fire Rating	Retardant	Tendency to Twist and melt	Tendency to twist and melt
4.	Thermal Insulation	Good	Poor	Poor
5.	Accoustic Rating	Good	Poor	Poor
6.	Absorption of rain and wind noice	Good (deadens these noices)	Poor	Poor
7.	Energy consumption required in production (kwh/Sqm.)	2.4	36.6	33.0
8.	Man Power potential	Intensive	Low	Low
9.	Wind resistance when installed	Good	Poor	Poor
10.	Weather effect	None	None	Surface Oxidation
11.	Bimetallic Reaction	None	None	Present in contact with concrete and other metals presence of moisture
12.	Condensation	Low and will not affect sheet	High and will affect sheet	High and will result in corrosion
13.	Effect of high winds	Minimum	Unacceptable rattling sound	Rattling sound
14.	Noise level	Low	High	High

15.	Protective coating	Not required	Not required	Required to avoid direct contact with cement, limesoil, iron, copper etc.
16.	Storage	Can be stored in open space at work site	Needs closed godown for storage to avoid weather assaults	Needs closed godown for storage to avoid weather assaults
17.	Coverage Efficiency	Approx. 50% higher taking into account lap losses.	Effective laid area becomes only 67% as compared to AC Sheets.	Effective laid area becomes only 67% as compared to AC Sheets.
18.	Cost	Low	High	Highest

Financial Performance:

The financial performance of both the Asbestos Units has been satisfactory. The Company could save significant costs on raw material, overheads due to continuous control over costs. Though the market continued to be very competitive with prices of finished goods declining sharply, the Company could largely offset its effect by controlling costs and increasing volume. With continuing efforts to increase volumes further with improvised marketing strategies coupled with continued efforts to reign in costs, this division is expected to perform well in the coming year.